CULTURAL DIFFERENCES AND PERCEPTIONS OF AUTISM AMONG SCHOOL PSYCHOLOGISTS

A Dissertation

by

CALISSIA THOMAS TASBY

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2008

Major Subject: School Psychology

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Approved by:

Chair of Committee,	Cynthia Riccio
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ABSTRACT

Cultural Differences and Perceptions of Autism Among School Psychologists. (December 2008)

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Chair of Advisory Committee: Dr. Cynthia Riccio

Behavioral manifestations of autism are said to be exhibited across cultures and socioeconomic status with little variation. The majority of the epidemiology studies have not studied race, and have typically used Western definitions to conceptualize autism when studying other non-Western cultures. Autism does not have a known etiology that is biologically based so the diagnostic criteria and procedure for diagnosing autism is based upon subjective judgment. In the medical and educational community, autism remains a disorder that is not diagnosed evenly across cultures. Discrepancies exist among ethnicity groups in the diagnostic rate of autism in the health community and in the identification of autism among diverse cultural groups in special education. Understanding the factors that may be influential in impeding early identification and diagnosis of autism among certain cultures is important. Currently, factors that influence interpretation of autistic symptoms by school psychologists are not overall clear. The purpose of this study was to investigate factors that may influence the diagnostic decisions of school psychologists as they relate to identifying behavioral symptoms associated with autism in African American, Caucasian, and Hispanic boys of varying SES. Three hundred and eight school psychologists sampled from the general membership of the National Association of School Psychologists were utilized in the present study. The results are promising in that school psychologists appear able to accurately identify symptoms associated with autism regardless of ethnicity or socioeconomic status. School psychologists are also able to recognize when patterns

of behavior diverge from normal development; however, school psychologists were more likely to indicate the child's problem was due to Child Abuse for a child from a low SES versus a high SES regardless of ethnicity. Furthermore, school psychologists were more likely to indicate the child's presenting problem was due to Child Abuse for the Caucasian child and not likely for the Hispanic child. Likewise, the child's socioeconomic status influenced school psychologists to more likely indicate the child's presenting problems was due to Cultural Deprivation for the child from the low SES and least likely for the child from the high SES. SES by ethnicity interactions were not evident for any of the analysis. Thus, results indicate school psychologists may be influenced by factors beyond the behavioral presentation of autism. Consequently, this may explain the variation currently seen in the identification and diagnoses of autism by ethnicity. Explanation of results, implications for practice, and potential areas of future research are also discussed.

DEDICATION

I dedicate this dissertation first to my late great-grandmother Edith “Florine” Rutherford, affectionately known as Madea, who passed away this year on January 30, 2008; at the age of 80. I have never met a woman with so much grace, elegance, and selflessness. You were a God fearing woman and so very amazing. Humility was also very much a part of you. It was not until your death that I learned that you were hand picked to work in the operating room as a nurse on President John F. Kennedy when he was fatally shot in Dallas in 1963. Others would have bragged, but you my Madea was different. I pray I can be as wonderful as you when I grow up!

Unbeknownst to me at the time, God blessed me with a special gift a week prior to your death in the form of working on my dissertation at your home. I initially sought your house because it was quiet, peaceful, and a great place to get work completed; but I left that day with more than just words on my computer. I left with a memory of a day filled with laughter and tons of trips down memory lane as we reminiscenced while looking at old family photo albums. I also had the opportunity to see just how passionate you can get about those Dallas Mavericks! Who knew it would be one of our last shared moments together. Nevertheless, I am hopeful because we will be separated only for a little while. For I know when my race is complete here on earth, you will welcome me to Heaven with outstretched arms. We will spend eternity together glorifying our magnificent Savior. Love you always Madea!

My dissertation is also dedicated to my third grade teacher Mrs. Pauline Parish from Ronald E. McNair Elementary in the Dallas Independent School District, who provided me with my educational foundation to achieve my dreams. You are my most memorable teacher, mentor, friend, and sorority sister. Thank you for being an awesome teacher and instilling in me the importance of higher education. Love you lots!

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First and foremost, I must thank my Lord and Savior Jesus Christ for making this possible. Without him, I am nothing and can do nothing. Through Him ALL things are possible!

To my mother Regina, who I sometimes drove crazy with all of my dissertation research laying around the house, thank you for tolerating me! To my six year old nephew James, thank you for bringing out the kid in me. You helped me to laugh and never take life too seriously. Not to mention, when I slept to avoid working on my dissertation, it was you who told me I better get up and do my homework if I didn't want to get a "Big Fat Zero"! To my sister Antoinette, thanks for keeping me company during the nights I had to stay up late working on this dissertation and other internship related work. You are going to make a fabulous nurse! To my great grandfather, Sam Tasby Sr., the only living legend honored with a school named after him in the Dallas Independent School District (Sam Tasby Middle School), thank you for paving the way for me and others. Through your tireless fight to end segregation in Dallas ISD in the 70s, I and countless other minorities have the opportunities we have today in the district because of you. It is an honor to complete my doctoral internship in Dallas ISD. You are a living legend and I have some huge shoes to fill! To my friend Avalon, you have been a true blessing from God! Who else would be at the Post Office with me at 2 in the morning putting stamps on 500 plus envelopes to mail out for my dissertation. Thank you! Thanks are also due to your mother, Ms. Vachel, who helped stuff and lick many envelopes! Last but certainly not least, I want to thank the faculty at TAMU for helping me to cultivate my gift. To my chair Dr. Riccio, thank you for being my guiding light over the years. Kudos to my classmates, Drs. Shantina and Dahl, whom pushed me to complete this dissertation so I could graduate. Sorors, you both are truly Heaven sent! Thanks also to the countless others who helped along the journey. Love you all!

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CHAPTER I

INTRODUCTION

The eccentric behavioral idiosyncrasies of autism as highlighted in popular "Hollywood" movies has resulted in an increase in the fascination and awareness of the disorder among professionals and the general public. The increase in awareness has resulted in an increase in the number of children diagnosed with the disorder (Fombonne, 2005). While pediatricians are generally the primary professionals to whom parents bring initial developmental concerns, 70% to 75% of children diagnosed with autism are identified in the educational system by a psychologist and other multidisplinary team members (Glascoe, 2000; Yeargin-Allsopp et al., 2003). According to the United States Department of Education (2004b), 136,986 children had a diagnosis of autism in 2002 and were being served in educational systems throughout the United States. The inception of federally mandated laws, such as the Individuals with Disabilities Education Act (IDEA; Public Law (P.L.) 108-446, §300.8) have contributed to increases in the number of school-aged children identified with autism and educational programs geared towards intervention and treatment.

The early identification and diagnosis of autism is vital for the following reasons: (1) early interventions with younger children displaying symptoms of autism are more effective in improving desired behavioral and educational outcomes (Lovaas, 1987); (2) parents of children with autism benefit from genetic consultation regarding the future risks of autism to subsequent children (American Academy of Pediatrics, 2001); (3) beginning at birth, children with autism

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This dissertation follows the style of *Focus on Autism and Other Developmental Disabilities.*

are eligible to receive special services that are free and appropriate through public school systems and other mental health agencies as mandated in the Individuals with Disabilities Education Act (PL 108-446, § 300.8); and (4) early diagnosis and treatment of problematic behaviors of autism provides increased support for families challenged by the experience of raising a child with a disability (Mandell, Listerud, Levy, & Pinto-Martin, 2002).

Given the reasons for the importance of early identification, factors that are influential in impeding the progress of early diagnosis and treatment of children with autism need to be examined. Variation currently exists in the rate that children with autism are identified and diagnosed by age and ethnicity. Factors that may result in discrepancies in the rate of identification and diagnosis of children with autism include potential differences in the behavioral presentation of autism by culture and socio-economic status (SES). In contrast, discrepancies could exist not in the behavioral presentation of autism by culture or SES, but as a result of moderator variables influencing the perceptions of professionals responsible for diagnosing autism. Overall, studies examining the factors that influence the identification of autism among professionals have been limited.

Understanding the factors that may be influential in impeding early identification and diagnosis of autism among certain cultures is important in that early diagnosis provides access to appropriate educational and medical services to children with autism and their families (Lord & Risi, 2000). Intensive early intervention also helps to minimize the negative symptoms of autism while maximizing long term benefits of such intervention (Ozonoff & Rogers, 2003; Shah, 2001). Currently, factors that influence interpretation of autistic symptoms by school psychologists are not very clear. Addressing these issues will be vital in providing a free and appropriate education as early as possible to children with known and unknown disabilities.

Purpose of the Study

Schools psychologists are usually key figures in the identification and intervention process of children with autism. The purpose of this study is to add to the knowledge base relating to the diagnosis of autism in culturally diverse groups by school personnel. This study will investigate factors that may influence the diagnostic decisions of school psychologists as it relates to identifying behavioral symptoms associated with autism in African American, Caucasian, and Hispanic boys of varying SES. The disparity in identification and service provision for children with autism is the focus of this study, but definition and history of the disorder, as well as additional information on prevalence and incidence will be discussed first.

Research Questions/Hypotheses

Research Question 1

Do school psychologists differ in their clinical decisions regarding severity of child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables?

- It is hypothesized that significant differences will exist in clinical decisions of school psychologists regarding severity of behavior for the high vs. low income students regardless of ethnicity.

Research Question 2

Do school psychologists differ in their clinical decisions regarding unusualness of child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables?

- It is hypothesized that significant differences will exist in clinical decisions of school psychologists regarding unusualness of behavior for the high vs. low income students regardless of ethnicity.

Research Question 3

Do school psychologists differ in their clinical decisions regarding the immediacy of need to intervene to child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables?

- It is hypothesized that significant differences will exist in clinical decisions of school psychologists regarding immediacy of responding to child's behavior for the African American vs. Caucasian vignette, high vs. low income students.

Research Question 4

Do school psychologists differ in their clinical decisions regarding the likelihood each category (Expressive Language Disorder; Child Abuse/Neglect; Mild Mental Retardation; Cultural Deprivation; Autistic Disorder; Attention-Deficit Hyperactivity Disorder; Developmental Delay; Emotional Disturbance; Hearing Impairment; and Normal Developing Child) explains child's behavior influenced by child's ethnicity, child's SES, or a combination of these variables?

- Based upon results obtained from the Cuccaro et al. study (1996), it is hypothesized that significant differences will exist in clinical decisions of school psychologists regarding the likelihood that cultural deprivation explains child's behavior for the high vs. low income students regardless of ethnicity of the child or professional discipline. Cultural deprivation will be the category that school psychologists indicate is most likely the reason for the low income child's behavior. In contrast, school psychologists will indicate autism is the most likely reason for the behavior of the high income child.

Research Question 5

Does ethnicity of school psychologists influence their clinical decisions regarding child's behavior on above questions 1- 5 based on child's ethnicity, child's SES, or a combination of these variables?

- It is hypothesized that no significant differences will exist on questions 1 - 5 based upon the ethnicity of the school psychologists.

Research Question 6

Which of the child's symptoms do school psychologists consider most critical to their clinical decisions?

- Question is for informational purposes and will provide insight into what factors are instrumental in helping school psychologists make decisions regarding children's behavior that are consistent with a diagnosis of autism.

Definitions of Terms

Autism: The DSM-IV states that children must display, before the age of 3, at least two qualitative impairments in their social interaction, at least one qualitative impairment in communication, and must engage in or show an interest in a restricted repertoire of activities (See Appendix A).

Culture: As defined by Singer (1987), culture is "a pattern of learned, group-related perceptions—including both verbal and nonverbal language, attitudes, values, belief systems, disbelief systems, and behaviors—that is accepted and expected by an identity group" (p. 6).

Diagnostic rate: Period of time its take an individual to receive a diagnosis.

Ethnicity: Refers to membership in an ethnic groups that is composed of people who share characteristics such as language and cultural practices.

Overrepresentation: Overrepresentation is said to occur when a disproportionate number of students from certain groups are placed in special education at a percentage that is greater than the total percentage of that group found in the school population (Harry & Anderson, 1994).

Perceptions: Through perceptions, individuals take stimuli from their external environment and select, evaluate, and organize these stimuli through an internal process. Internal processes or perceptions are influenced by beliefs, values, attitudes, and worldview (Weru, 2005).

Socio-economic status: Socially constructed position in society based upon family income and parental educational level.

CHAPTER II

REVIEW OF LITERATURE

What Is Autism?

Autism is a pervasive developmental disorder that inhibits the normal development of infants and children with the disorder. Impairment exists in reciprocal social and communication skills, language development is abnormal, and individuals with autism engage in behaviors or have interests that are restricted in repertoire (Klinger & Dawson, 1996) as delineated in the *Diagnostic and Statistical Manual of Mental Disorders – fourth edition: Text Revision* (DMS-IV:TR; American Psychiatric Association [APA], 2000). Since the developmental trajectory of those with autism varies from individual to individual, autism is frequently referred to as a spectrum disorder (Whitman, 2004). Symptoms exhibited by individuals on the spectrum tend to vary in severity and pattern with some individuals having severe impairment while others have only minor impairment. Significant developmental gains are made between the ages of 3 and 8 for approximately half of the children with autism in the domains of language, social, behavior, and reasoning; however, the other half of children with autism show no such gains (Minshew, 1997).

The term Pervasive Developmental Disorders (PDD) encompasses Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder, and Pervasive Developmental Disorder Not Otherwise Specified. Due to overlapping symptoms and few absolute distinctions between autism and the other Pervasive Developmental Disorders, classical autism often serves as the prototype for PDD (Lord & Risi, 2000; Minshew, 1997; Ozonoff & Rogers, 2003). Accordingly, the term Autistic Spectrum Disorders (ASD) is often used interchangeably with the term Pervasive Developmental Disorders (PDD) throughout the literature, and parents are said to have a better understanding of the term Autistic Spectrum

Disorder (Baird, Cass, & Slonims, 2003). In the present study, the term Autistic Spectrum Disorder will be used synonymously with the term Pervasive Developmental Disorders when discussing globally the disorders under the PDD umbrella. However the term Autism will be used in reference to what is traditionally considered autistic disorder as defined in the DSM-IV-TR. This definition is provided in Appendix A.

Historical Background of Autism and Asperger's Disorder

Bleuler coined the term "autism" in 1911 in reference to individuals with schizophrenia with a thought process disorder (Bleuler, 1950; Simpson & Zionts, 2000). Autism was separated into a separate entity from schizophrenia in 1942 when Leo Kanner, through 11 case studies, used the term to describe children with a strong desire for sameness and aloneness, abnormal language and speech development, impairments in social communication and interactions, and stereotyped and repetitive behaviors and mannerisms (Kanner, 1943).

Hans Asperger in 1944, independent from Kanner, also described a group of children with similar characteristics, but with a less severe type (Wing, 1981). The children described by Asperger were higher functioning, had a more normal language development, but their conversational abilities showed some impairment. These individuals lacked affective facial expressions, avoided eye contact, used awkward language, and had a tendency to become overly preoccupied or focused on a restricted area of interest (Whitman, 2004). Asperger labeled this group of individuals with a disorder he called "autistic psychopathy." Asperger's articles on autism remained unknown in English-speaking countries as a result of being written in German. It was not until the 1980s, through the work of Lorna Wing, that Asperger's work on autism became widely publicized (Whitman, 2004; Yapko, 2003).

Prior to the DSM-IV-TR, Asperger's and Autism syndrome were grouped together as one disorder. The diagnostic criterion in the DSM-IV-TR distinguished the two disorders, and

indicates that Autism and other Pervasive Developmental Disorders must be ruled out prior to a diagnosis of Asperger's being made; and the individual must not have exhibited early significant delays in cognitive and language skills (APA, 2000). Ongoing debate among researchers currently exists regarding functional differences between Asperger's and High Functioning Autism. Individuals who are functioning in the normal range intellectually, but still meet criteria for autism are typically referred to as individuals with "high functioning" autism (Ozonoff & Rogers, 2003). Mixed evidence has been presented in regard to functional differences, and a consensus among researchers and clinicians has yet to be reached (Eisenmajer et al., 1996; Minshew, 1997; Ozonoff, Rogers, & Pennington, 1991b; Szatmari, Archer, Fisman, Streiner, & Wilson, 1995). In the present study, the focus will be on children with lower functioning autism who tend to exhibit more severe impairments than are seen in children with Asperger's or High Functioning Autism.

Etiology

The etiology of autism still remains unknown. When autism was first described by Kanner (1943), he observed that all the children from his study hailed from "highly intelligent families" that where "strongly preoccupied with abstractions of a scientific, literacy, or artistic nature, and limited in genuine interest in people" (p. 248, 250). Kanner (1943) also indicated some obsessiveness in the family and "very few really warmhearted fathers and mothers" (p. 250). Despite these observations, Kanner believed these parental attributes could not be used to explain exclusively the origins of autism since the children seemed to be born already with their condition. Kanner (1943) instead suggested a biological basis of autism when he indicated that assumptions must be made "that these children have come into the world with innate inability to form the usual, biologically provided affective contact with people, just as other children come into the world with innate physical or intellectual handicaps" (p. 250). Consistent with his

biological theory, Kanner (1943) labeled the condition “inborn autistic disturbances of affective contact” (p. 250).

Although Kanner endorsed a biological origin of autism, he also issued statements that appeared to endorse social environmental factors that were thought to have some influence on the disorder. Kanner (1952) blamed the parental characteristics of “emotionally refrigerated parents incapable of defrosting” for the sabotage of therapy with patients with autism (p. 703). During this time period, the movement for a psychogenic theory of autism developed; this resulted in biological and genetic causes for autism being ignored for a psychopathological root (Dyches, Wilder, & Obiakor, 2001). Championing this movement was Bruno Bettelheim who advocated strongly for the removal of children with autism from mothers believed to be cold and refrigerated (Dyches et al., 2001; Pisula, 2003; Whitman, 2004). To combat the wide acceptance of the psychogenic theory of autism, Bernard Rimland endorsed a more biological based etiology, which served as a catalyst to change the focus of research on autism. Research conducted by Rimland in support of a biological basis as cited in Whitman (2004), indicated: (1) most parents of autistic children did not have personalities that were cool and detached as stereotyped in Kanner’s original description of them; (2) most children with autism did not have siblings that had autism; (3) boys had a ratio of autism that was on average three or four to every one girl; (4) autism was found at high levels of co-occurrence in identical twins; and (5) an association was found between organic brain dysfunction and symptoms consistent with autism.

In addition, various studies (Pisula, 2003; Rutter, 2005; Whitman, 2004) have highlighted research conducted among families and identical twins that provides confirmation that genetics appears to play an important role in the etiology of autism. Since genetics appears to play a significant role in the etiology of autism, Dyches et al. (2001) have questioned if correlations between autism and race exist. However, studies conducting research examining

race and autism has been nonexistent or have been very limited; therefore, the role that genetics play in autism among certain ethnicity groups is relatively not known and needs to be examined (Dyches et al., 2001).

Although some researchers support the genetics hypothesis, others support the hypothesis that factors in the environment may trigger autism. As seen in the disorder of phenylketonuria, some researchers suggest that environmental factors interact with genetic factors and influence the manifestation of autism (Pennington, 1991; Whitman, 2004). Phenylketonuria is a genetic disorder where the enzymes necessary to metabolize the amino acid, phenylalanine, are not available. For example, severe mental retardation is seen in children with the genetic disorder of phenylketonuria when they are exposed to a diet (environment) that consists of phenylalanine; however, when not exposed to such diet, development is normal in these children (Whitman, 2004). Additional research pinpointing exact environmental cues that cause autism is needed; in addition, research examining genetics in a multicultural population is also warranted.

Theoretical Perspectives on Autism

In an attempt to better understand autism spectrum disorders, the developmental manifestation of autism has been examined, and a number of theories have been generated based on manifestations. In particular, theory of mind, dysexecutive function, and weak central coherence have been posited as providing explanations for the syndrome of behaviors associated with autism that include social impairment, communicative impairment, and restrictive range of behaviors.

Social Impairment

During the early childhood stages of autism, signs and symptoms are the most severe, but as time emerges, the course of autism diverges significantly with wider outcomes appearing

(Minshew, 1997). During early childhood, one of the most noticeable cardinal symptom of autism is disturbance in social development. Impairment exists in the ability of individuals with autism to develop intimate relationships through engaging in interpersonal interactions (Bailey, Phillips, & Rutter, 1996). In Kanner's initial report on autism, he noted "extreme autistic aloneness" as an essential feature of the disorder (1943, p. 242). Consistently since Kanner's report, impairment in social interaction remains a fundamental characteristic of autism that has been reflected in the diagnostic criteria (Baron-Cohen, 1989; Carter, Davis, Klin, & Volkmar, 2005). Behavior abnormalities in the area of impairment in social development include,

> (1) a limited awareness of, or interest in, the desires, needs, distress, or presence of others; (2) an emotional remoteness or aloofness; (3) a failure to share activities, pleasures and achievements with others; (4) a lack of understanding of social convention; (5) an impairment in social perspective and empathetic role taking; (6) a restricted repertoire of social skills, such as greeting behavior; and (7) awkward or stereotypic responses to others (Zillmer & Spiers, 2001, p. 273)

Individuals with autism may have difficulty with eye contact, facial expressions, and making friends. When engaging in an activity, individuals with autism also do not make attempts to bring others into their activity, and do not appear to be aware of the existence of individuals outside of their own world (Ozonoff & Rogers, 2003). In addition, children with autism have difficulty generalizing their experiences from one situation to the next. While they may know what is expected of them and behave accordingly in one situation, they have difficulty adapting that information to new, similar situations (Aarons & Gittens, 1999).

Communicative Impairment

Language abilities in children with autism show profiles of unevenness with abilities ranging from muteness to verbal speech with some residual language deficits (Minshew, 1997). Impairments exist in language comprehension, receptive and expressive verbal and nonverbal language especially in the areas of gestures, facial expressions, rhythm and pitch of speech, and eye contact (Minshew, 1997; Whitman 2004). Approximately 50% of the children with autism never develop receptive and expressive language, nor do they compensate through the use of nonverbal communication (Minshew, 1997). In the other 50% of children with autism, language development tends to follow a distinctive and abnormal pattern. According to Minshew (1997), the verbal language of children with autism develops in the sequence of "simple immediate echolalia, complex delayed echolalia, the functional use of echolalia to communicate needs resulting in pronoun reversals (e.g. I for you), original or nonechoed language with grammatical errors or grammatically correct language that is stereotyped, grammatically correct simple sentences, and complex sentences" (p. 820). Out of the 50% of children with autism who develop language, 25% of these children maintain a rudimental stage of verbal and nonverbal language (Minshew, 1997).

In nonverbal communication, the use of eye contact follows a similar sequence as language with 1) initially no eye contact followed by, 2) distant glancing that is constant; 3) the use of the glancing eye in social situations; 4) eye contact that is prolonged in social situations; and 5) engaging in eye contact in social situations that is normal in quantity (Minshew, 1997). Facial expressions in children with autism typically are expressionless or consist of a smile that is unvarying (Minshew, 1997). Lastly, children with autism when communicating with others may interrupt others frequently, showcase difficulty holding an extensive conversation with spontaneous dialogue, and will have difficulty understanding satire or jokes (Whitman, 2004)

Restricted or Stereotyped Behaviors

Children with autism tend to engage in behaviors that are abnormal, stereotyped, and ritualistic. For example, children with autism may engage in a high frequency of self-stimulatory behaviors such as twirling or rocking their body or objects, or engage in self-injurious behaviors such as head-banging. In addition, they may engage in ritualistic behaviors such as lining up objects or adhere strictly to a specific routine. Interrupting their ritualistic behavior or routine, or changing something in their environment that has been consistent, can result in emotions of extreme irritation, anxiety, or anger (Zillmer & Spiers, 2001). Underlying reasons for this behavior is not known; however dual cognitive deficits as a result of a keen awareness for detail combined with impairments in abilities of abstract reasoning have been suggested (Minshew, 1997). In regard to what causes stereotyped behaviors, it has been postulated that children with autism engage in stereotyped behaviors as a way to reduces anxiety or tension, or as a means to find stimulation when they are experiencing a low internal state of arousal (Whitman, 2004).

In addition to restricted or stereotyped overt behaviors, children with autism are also known to be extremely knowledge about specific topics, such as airplanes or cars, and will develop a memory for extensive minute details or facts regarding this restricted topic (Mesibov, Adams, & Klinger, 1997). Often, in conversations, children with autism will converse in great details about their topic of interest, and may not recognize that they are violating social norms by dominating the conversation with this single topic. Likewise, children with autism will often become fixated on parts of objects. For example, a child with autism may only spin the wheels on a car, and ignore the real purpose of the car. Behaviors as described in this section showcase deficits in autism that are widely known when the topic of autism is discussed because of the peculiarity of these behaviors.

Theory of Mind

Difficulties exhibited by children with autism in understanding social situations that require "putting yourself in another person's shoes" and "extracting what is meaningful and central" from a particular situation are hypothesized to be a result of impairment in their Theory of Mind (ToM) and Weak Central Coherence (Aarons & Gittens, 1999, p. 36). Theory of Mind suggests that individuals with autism have difficulty conceptualizing that others have different feelings, beliefs, and ideas outside of their own (Baron-Cohen, Leslie, & Frith, 1985). Cognitive deficits are believed to be the root of impairment in the development of a theory of mind in children with autism (Baron-Cohen, 1989). Without a theory of mind, a child with autism is not able to explain or predict behaviors of others because he or she is not able to assume mental states exist outside of his or her own. For example, since children with Down Syndrome were able to exhibit a theory of mind in the Baron-Cohen, Leslie, and Frith (1985) study, it is believed that the lack of theory of mind in children with autism is a result of a specific delay in developing a internal representation/meta-representational capacity and not a result of a general developmental delay (Baron-Cohen, et al., 1985; Baron-Cohen, 1989; Leslie, 1987). It is postulated that children with autism who later develop theory of mind, do so at a lower level and are delayed in acquiring theory of mind at a more complex level (Baron-Cohen, 1989).

Another important part of theory of mind is the role of imitation in early development. Learning to understand others and take on their perspective is learned initially through the precursor role of imitation. Through imitation, infants develop an understanding of the relationship between their personal behaviors and those of others and engage in taking on the perspective of others or perspective-taking (Meltzoff & Gopnik, 1993). Understanding why a child with autism can easily copy the vocalizations of others, but have difficulty copying their gestures will be explained. While perspective-taking is required when the gestures of others are

imitated, perspective-taking is not required with copying the vocalizations of others. Vocalizations of others can be compared directly to one's imitation of that vocalization because the same modality is utilized since the child can hear both the vocalizations of others and the child's own self-production. However imitating the gestures of others does not utilize the same modality as a result of the following:

> The child cannot make a direct comparison between self and other, because self and other are perceived through different modalities. The subject can see the model, but cannot see his or her own face, neck, back, etc. The imitation of these acts involves cross-modal mapping, and implicates a body scheme to coordinate the intercorporeal correspondences (Meltzoff & Gopnik, 1993, p. 353).

In other words, the child with autism sees the action of others from a different perspective than he sees his own actions, and therefore is not directly able to compare the two. Some researchers have hypothesized this to be compatible with the view that children with autism have deficits in their social cognition and theory of mind (Meltzoff & Gopnik, 1993).

Dysexecutive Function Theory

Dysexecutive Function theory postulates that children with autism have impairments in executive processing. Since executive processing involves functions such as planning, attention shifting, control of impulses, switching between responses, utilizing working memory, and allowing mental processes to guide actions; children with autism are said to have impairments in these areas (Joseph, 1999; Mesibov et al., 1997; Whitman, 2004). Furthermore, children with autism often showcase inflexibility, experience distress when their normal routine is interrupted, engage in repetitious behavior, and tend to have interest that are narrow in focus (Mesibov et al., 1997). These behaviors are thought to be mediated by the frontal lobes which are said to cause

similar executive functioning problems in other disorders such as attention-deficit hyperactivity disorder (ADHD).

Ozonoff, Pennington, and Rogers (1991a) found deficiencies in executive functioning to be prominent in both children with high functioning autism and Asperger's syndrome on the cognitive measures Tower of Hanoi planning task and Wisconsin Card sorting task. However, the children with Asperger's syndrome in the sample did not appear to show deficits on theory of mind task. Pennington (1991) interpreted the results to indicate 1) primary deficits in theory of mind and executive function may exist, or 2) deficits in theory of mind are secondary while deficits in executive function are primary, or 3) underlying both deficits is a more basic deficiency in prefrontal functioning; and in terms of cognitive processes, current research lacks proficient formulation. Zillmer and Spiers (2001) interpreted these findings to suggest that individuals with autism and Asperger's syndrome share executive function deficits although each presents distinct cognitive profiles. One weakness of the dysexecutive functioning hypothesis is that the theory does not provide in-depth answers to some of the other more underlying symptoms of autism. For instance, while the theory can explain impulsivity and lack of planning in individual with autism, core deficits in social and communication functioning in individuals with autism still needs to be explained through stronger evidence linking executive functioning deficits to these areas (Frith & Happe, 1994; Joseph, 1999).

Weak Central Coherence

As a result of the failure of theoretical models like the Theory of Mind and Theory of Dysexecutive Function to adequately explain symptoms in autism such as the inclination to fixate on segments of objects, extreme sensitivity to minute environmental changes, restrictive interest, and the showcase of high functioning abilities on task such as Block Design, the Weak Central Coherence theory was developed (Hoy, Hatton, & Hare, 2004). Weak Central

Coherence theory proposes that children with autism process information in segments instead of a complete or whole unit. More specifically central coherence entails processing information so that disparate information is drawn together to construct content with a higher-level meaning (Frith & Happe, 1994). For instance one uses central coherence when a story is heard and recalled. One hears a story, deciphers between the minute details that are unimportant versus those that are important, and recall of the story consists of discussing the main ideas of the story minus all the insignificant details.

Weak central coherence in autism is also apparent in the solving of jigsaw puzzles. Whereas individuals who do not have autism may arrange jigsaw puzzle pieces in relation to the main picture, children with autism will more than likely arrange jigsaw puzzle pieces by the shape of the pieces instead of the overall picture (Frith & Happe, 1994). In other words, individuals with autism have a general tendency to become preoccupied with minute details instead of taking in the global picture. In addition, some individuals with autism showcase an ability to retain and regurgitate lots of remote information; however these individuals typically have no comprehension of the information. One benefit of the weak central coherence theory is that patterns of performance that is exceptional and mediocre can both be explained within one theoretical perspective (Happe, 2005).

Diagnostic Process

Diagnosis of autism is made by a psychiatrist, physician, or psychologist based on observable behavioral criteria; the criteria used to classify individuals with autism is not derived through biological test but through a consensus of professionals (Volkmar & Klin, 2005; Baird et al., 2003). The criteria used to identify children with autism have not been consistent over the years, and the core impairments exhibited varies from individual to individual and even changes within the same individual over a span of time, which in essence makes diagnostic cutoffs

difficult to define (Baird et al., 2003). Further, there is no standard measure used or accepted to diagnose autism (Lindemann-LaBuhn, Finstuen, Riccio, & Jarratt, 2004). The DSM-IV-TR and the 10th edition of the International Classification of Diseases (ICD-10; World Health Organization, 2004) are currently the diagnostic criteria frequently used by medical and mental health professionals to diagnose autism. With these criteria, children must display, before the age of 3, at least two qualitative impairments in their social interaction, at least one qualitative impairment in communication, and must engage in or show an interest in a restricted repertoire of activities (APA, 2000).

Unlike more biologically based disabilities such as visual and hearing impairment, the diagnosis of autism is not made through laboratory test, but instead is made on the basis of clinical judgment (Ozonoff & Rogers, 2003). Frequently, autism screening measures are not utilized by most pediatricians because they are lengthy, and in particular, the time allocated for medical visits are insufficient for their use. (Glascoe & Dworkin, 1993). Instead, clinicians often rely on their clinical impressions to surveillance developmental disabilities. Clinical impressions are influenced by personal attitudes, beliefs, knowledge, and experiences; and the combination of these characteristics are said to represent a set of judgment heuristics. Judgment heuristics are instrumental in how we cognitively sort information we consider to be relevant or irrelevant. Therefore, certain judgment heuristics may lead to impressions that are both accurate and produce good decisions, while some impressions are inaccurate and result in errors in judgment (Glascoe & Dworkin, 1993). Hence, this may explain why only 30% of children with autism and other developmental delays are diagnosed prior to beginning school (Glascoe, 2000; Yeargin-Allsopp et al., 2003).

In the school setting, children are identified as meeting eligibility requirements for special education services under the Individuals with Disabilities Education Act of 2004 (IDEA;

Public Law (P.L.) 108-446, §300.8). A diagnosis of autism or Asperger is not sufficient for eligibility, as there is also a criterion for educational need. While diagnosis of autism or Asperger may be made by a physician, psychiatrist, or psychologist, the identification and eligibility for services under the category of autism is made by a multidisciplinary team. As stated in the 2004 reauthorization of IDEA, eligibility under the category of autism is as follows:

> A developmental disability significantly affecting verbal and non-verbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. Autism does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance (IDEA, §300.8).

Instrumental in the identification of autism in the school system are school psychologist and other multidisciplinary team members (e.g., special education teachers, regular education teachers, administrators, speech-language pathologists; Phillips, Longlett, Mulrine, et al., 1999). Legally, comprehensive multifactored evaluations are required by federal regulations for any child in the educational system suspected of having a disability that impedes their academic performance. Evaluations must consist of assessment procedures that illicit input from various sources and uses both informal and formal measures (IDEA, 300.306). Professionals engaging in the identification, assessment, and diagnostic process must be skilled in recognizing the symptoms of autism and utilizing assessment measures to gather information supporting or discrediting a diagnosis of autism.

Spears (1999) conducted a study examining how accurately characteristics of autism could be recognized and translated in assessment data by urban and rural school psychologist.

Findings from her study indicated that when presented with data consisting of assessment information and written descriptions, the majority of psychologists from her sample had difficulty recognizing symptoms of autism and distinguishing it from other disabilities. This is problematic considering proficient clinical evaluations must incorporate interpretation of objective measures when identifying autism (Ozonoff & Rogers, 2003).

Thus, there are two differing systems (medical and educational) that interact in the diagnosis and identification of autism. Neither of these systems is static and the defining criteria for both systems change over time. Additional factors involve the training of the professionals making the diagnosis or identification. Professionals engaging in assessments with new diagnostic measures are also reported to lack familiarity with the strength and weaknesses of the psychometrics properties of these tools (Ozonoff & Rogers, 2003). Inexperience with autism is a major factor in professionals in the medical and educational system (Glascoe & Dworkin, 1993; Ozonoff & Rogers, 2003; Stone, 1987). Konstantareas (1989) suggested the lack of exposure to a range of variability in the manifestations of symptoms present in autism, despite some practioner's high levels of expertise, impedes practioner's ability to provide the necessary multifaceted input to individuals with autism and their families. To demonstrate, Spears (1999) found that more experienced psychologists tended to make more accurate diagnostic decisions regarding autism than their inexperienced colleagues. With this in mind, it is possible that inexperienced practioners engaging in the autism diagnostic process compensate for their lack of experience with individuals with autism and proficiency in reading autism assessment data by relying heavily upon their clinical judgment. Clinical judgment is influenced by experience, beliefs, and attitudes, and may lead to inaccurate diagnosis. Thus, this may explain why discrepancies exist in the identification of autism.

The identification process of autism as performed by both school personnel and medical physicians also requires solicitation of information from parents. Linguistic and cultural differences between parents and school or medical personnel diagnosing autism can serve as a barrier during the identification process (Lynch & Stein, 1987). Even when utilizing interpreters, key information may be lost in translation or some parents may be illiterate in their primary language and not able to communicate concerns effectively (Lynch & Stein, 1987). Furthermore, information elicited from parents in general is influenced by how a clinician words questions (Glascoe, 1999). To eliminate any influence that ethnicity or level socioeconomic status of a parent has on information and concerns reported to clinicians, clinicians should be proactive in asking parents about their concerns in the areas of learning and development as oppose to waiting for parents to initiate the conversation (Glascoe, 1999).

Cooper-Patrick et al. (1999) examined the association between physicians' participatory decision-making style and the race/ethnicity and gender of the patient and physician, differences in the ethnicity of physicians and patients were found to present as barriers to effective communication and partnership between the two groups.

African American and other minority group reported the least participatory visit with Caucasian physicians despite educational level of patient. Patients rated the decision-making style of physicians of their same race as more participatory. Physician factors hypothesized to account for the results include the following: 1) Racial bias may unintentionally be incorporated into how physicians interpret the behavior and symptoms of patients and thus influence decision making; 2) Differences in physicians understanding of how the patient's framework of interpreting symptoms and disease are influenced by his or her culture; and 3) Expectations of the visit may differ between physician and patient. Communication barriers that interfere with physician's proficiency in eliciting important input from parents is detrimental to early

identification because parents are excellent sources to obtain information regarding the developmental history and present level functioning of a child that may not be apparent through a 20 minute observation in a medical appointment.

Clinicians in the schools have the challenge of accurately identify all children with symptoms consistent with autism, but yet must have enough skill to smoothly balance the tendency to over identify some groups based upon ethnicity and SES, while under identifying other groups based upon these same factors. This task becomes more daunting for the less skilled clinicians who lack effective training and experience in working with this population. Regardless of the setting, perceptions of the clinicians that serve as barriers and interfere with early identification need to be further investigated.

Programs of Early Intervention

Early intervention programs are important for a number of reasons and have been found to showcase huge outcome successes for a number of children with autism especially when intensive intervention is began early (Harris, Handleman, Gordon, Kristoff, & Fuentes, 1991; Hoyson, Jamieson, & Strain, 1984; Lovaas, 1987; McEachin, Smith, & Lovaas, 1993; Ozonoff & Cathcart, 1998; Smith, Eikeseth, Klevstrand, & Lovaas, 1997). Before highlighting the research in the area of early intervention programs for children with autism, it is important to understand the role of these programs are not to "cure" autism. As discussed in earlier sections, autism is believed to have a biological, genetic, and possibly an environmental basis and currently there are no medical techniques to reverse autism or "re-wire" the brain (Farber, 1996). Therefore, early intervention programs role is again not to be curative in nature, but instead the role is to ameliorate or decrease some of the negative behavioral features associated with autism and improve developmental and educational outcomes for these children (Farber, 1996; Lovaas, 1987).

Overview of Treatment Approaches

Since no standard model or blueprint exist in the best way of treating the features of autism, most of the programs available for early intervention differ in their theoretical approach. Depending on what theoretical perspective one adheres too will significantly influence ones view of how to best treat behavioral manifestations of autism (Scheurmann & Webber, 2002). Programs that adhere more to a perceptual/cognitive model will focus on teaching the child with autism with visual cues, social stories, and other techniques to improve the child's ability to take on the perspective of others (Scheurmann & Webber, 2002). Behaviorally based programs will focus on improving target behaviors through behavior modification in the form of reinforcing positive behaviors, increasing desired behaviors through shaping, and eliminating or decreasing undesired behaviors through the teaching and reinforcing of those desired behaviors that compete with the undesired ones, also known as differential reinforcement (Farber, 1996; Scheurmann & Webber, 2002).

Whereas those programs with a more relationship approach, will place higher emphasis on increasing the child's ability to form relationships and develop affect and attachment (Dawson & Osterling, 1997; Rogers & Lewis, 1989; Scheurmann & Webber, 2002). In contrast, the focus of approaches with a more physiological basis is to focus on the more underlying processing issues that are believed to be more neurologically based such as sensory and auditory integration issues in children with autism (Scheurmann & Webber, 2002). These approaches will evaluate a child's physiological needs and alter sensory or auditory stimulation accordingly with the goal to increase or decrease the child's sensory or auditory functioning level gradually (Scheurmann & Webber, 2002). For example, a technique may be used to reduce a child's sensitivity to auditory sounds which as a result may improve the child's ability to function cognitively, behaviorally, and socially (Scheurmann & Webber, 2002). As showcased, the

premises of early intervention programs differ and as a result make it difficult to engage in comparisons to find the best program. Despite the differences in approaches, early intervention programs, as will be highlighted, below do report promising outcomes for children with autism.

Outcomes of Early Intervention Programs

One of the earlier programs that reported ethnicity of participants was conducted by Rogers and Lewis (1989) and was based upon the premises that decencies exist in the areas of symbolic play, social communicative language, and social development (imitation, social perception, emotional comprehension) in children with autism when compared to children without autism of comparable abilities of intelligence. To remediate deficiencies in these areas, an intensive day treatment program was provided that focused on activities to improve development in these areas in twenty Caucasian children, eight African American children, two Hispanic children, and one Asian child between the ages of two and six. To rule out gains that would occur naturally as the child developed and matured without any type of intervention, a prediction index analysis was conducted.

From the results, it was found that through this intensive 4.5 hours a day treatment approach, significant gains were made over a period of 6 months in areas of cognition, communication, and domains of social/emotion and perceptual-fine motor that could not be explained by chance. To check for the effectiveness of this treatment model, the study was replicated in additional locations that include one urban and three rural areas in Colorado with a total of 11 children. Results in these locations were consistent. Two limitations of the present study was the lack of a control group of children with autism not receiving services and the lack of utilizing raters to gather assessment data that were oblivious to treatment membership of the children in the experimental and control groups. Regardless of these limitations, the present

study does provide some support to the importance of early interventions with children with autism.

To further explore the need for programs of early intervention, Rogers (1996) examined findings from six models of comprehensive early intervention programs for children with autism that were available in peer-reviewed journals. Results from reviewing the treatment programs indicate that although programs differed in their treatment approach to changing behavioral outcomes for children with autism, all six programs studies produced significant gains in rates of development, IQ, and language. In addition, symptoms traditionally associated with autism were decreased and social behavior was improved.

Through intensive intervention during the preschool years, most of the six programs were able to produce these gains within 1 to 2 years. Near the end of the intervention phase, typically around five years of age, seventy-three percent of the children had functional speech. In the two studies with a longitudinal constituent, gains were reported to last years after intervention concluded. Through analyzing the results from the six programs, Rogers (1996) also found that more progress was made between the ages of 2 and 4 when compared to older children with autism receiving the same intervention.

Core Features of Early Intervention Programs

Similar to the previous study, Dawson and Osterling (1997) examined eight models of early intervention programs for children with autism to determine what core features the different programs shared. Based upon their results, the first element each program shared was a curriculum that focused on five fundamental areas that included: "1) ability to attend to elements of the environment that are essential for learning, 2) ability to imitate others, 3) ability to comprehend and use language, 4) ability to play appropriately with toys, and 5) ability to socially interact with others" (p. 314-315). Additional elements of programs focused on creating

learning environments that were highly structured, supportive, and optimal for helping the children acquire new behaviors with the goal of using techniques to transition the children into generalizing the new behaviors in other contexts and settings.

Thirdly, programs had environments that were very predictable and adhered to specific routines. To facilitate this, some programs used visual cues and schedules while others used other techniques to help transition the children from activity to activity. Furthermore, each program shared a fourth element of dealing with problematic behaviors through a functional approach that included a) setting up the environment to lessen the chances of problematic behaviors, b) conducting functional behavior assessments to understand the function of the behavior when negative behaviors persist, and c) adapting the environment so that appropriate behaviors can be taught and supported such as teaching the child how to communicate needs vocally, through hand gestures, through objects such as pictures, or through communication devices. In addition, all programs had a component of preparing the child to transition from the program's structured environment to a more naturalistic environment such as a kindergarten class at a local school district or other educational placement. Lastly, all programs had an element of parent participation that empowered parents through the teaching of techniques and strategies they could incorporate at home with their child to assist with the maintenance and generalization of the newly acquired skills learned in the program.

One limitation to the early intervention programs highlighted above is the low number of children who actually get the opportunity to access and participate in these intensive structured programs (Rogers, 1996). Additional reasons for the low participant numbers may be due to the lack of public knowledge into the effectiveness of early intervention programs, the lack of funding to support these types of programs in local schools and community centers, difficulty with health insurance coverage for treatment, and the overall public view that autism is a

disorder that is untreatable and intervention provides little hope (Dawson & Osterling, 1997; Greenspan & Wieder, 1997; Rogers, 1996; Ruble, Heflinger, Renfrew, & Saunders, 2005).

Considering the substantial gains that children with autism can make by participating in autism intervention programs at an early age, it is important that researchers in the field increase the knowledge and support for these programs in the community and with legislators who determine public funding for such programs. Only with increased awareness will more children with autism benefit from intensive early intervention programs. Since autism can be diagnosed generally around the age of 3, it critical that clinician become well versed in how to identify children with autism so that early intervention can be recommended (Lord, 1995).

Epidemiology: Prevalence/Incidence

Prevalence is defined by Fombonne (2005) "as the proportion of individuals in a population who suffer from a defined disorder" whereas incidence is defined as "the number of new cases occurring in a population over a period of time" (p. 287). In other words, prevalence "is a measure used in cross-sectional surveys (there is no passage of time) and reflects the proportion of subjects in a given population who at that point in time, suffers from the disease", and incidence "refers to the number of new cases of a disease occurring over a specified period in those at risk of developing the disease in the population" (Fombonne, 2005, p. 42). Autism cases in the 1960s had an estimated prevalence rate of 4/10,000, but due to changes in the diagnostic criteria over the years, the current prevalence rate is estimated to be between 10/10,000 and 16/10,000 (Fombonne, 2005; Tidmarsh & Volkmar, 2003). Yeargin-Allsopp and colleagues (2003) found that out of 987children recruited for their study from a developmental disability surveillance program in Atlanta, a previous diagnosis or suspicion of Autism Spectrum Disorder was not found in 18% of the children in the study. Based upon this finding, the

researchers suggested that the true prevalence of individuals with autism will be underestimated if only those diagnosed with autism are counted in prevalence studies.

Currently, there is a false perception that incidence rates of autism are on the rise. It should be noted that increases in prevalence rates over the years do not signify a direct correlation of increases in incidence rates of autism (Fombonne, 2005). These rates of increase in prevalence are most likely a result of confounding variables such as increases in the awareness of autism, improvements in early detection and identification of autism, and increases in service availability for persons with autism (Fombonne, 2005). In addition, problems have existed in the accuracy of epidemiologic data published throughout the years due to flaws in methodology of these studies. Some methodological problems in these studies consist of population sampling errors and inconsistent diagnostic criteria used for identification. Therefore caution should be given when comparing epidemiologic studies over the years, or drawing conclusions from the data of these studies.

Comorbidity with Other Disorders

The behavioral symptoms of autism are occasionally mistaken for similar symptoms in more prevalent disorders. As a result, children with autism are believed to be previously and currently misclassified with other disabilities such as mental retardation, communication disorders, serious emotional disturbance, and Attention-Deficit Hyperactivity Disorder (Mandell, Listerud, Levy, & Pinto-Martin, 2002: Dyches et al., 2001). Understanding disorders that are comorbid with autism or include similar symptoms as autism aids clinicians in the identification process.

Mental Retardation

As defined by the American Association on Mental Retardation (AAMR, 1992), mental retardation is as follows:

> Mental retardation refers to substantial limitations in present functioning. It is characterized by significantly subaverage intellectual functioning, existing concurrently with related limitations in two or more of the following skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Mental retardation manifests before age 18 (p. 1).

Seventy-five percent of individuals with autism are also said to have mental retardation (APA, 2000). Similarities in symptoms that exist in both disorders include engaging in behaviors that are self-stimulatory or self-injurious, problems with attention, echolalia, intellectual ability that is impaired, and delays in symbolic play (Mesibov et al., 1997). Although overlap exists between mental retardation and autism, both are classified in the DSM-IV-TR as distinct disorders (APA, 2000). In addition, mental retardation is not a comorbid disorder in 25% of children with autism. Therefore, it is important for professionals to distinguish between individuals who have autism and mental retardation combined, and those individuals who solely have autism or mental retardation.

Characteristics that distinguish children with autism and mental retardation are important to highlight. Children with mental retardation typically have social and cognitive abilities that are evenly developed across these two domains; in contrast, children with autism typically show variations in their abilities (Sigman & Capps, 1997). Whereas children with autism exhibit stronger skills in daily living compared to children with mental retardation, children with mental retardation are less impaired in their social functioning relative to their mental age (Mesibov et al., 1997; Spears, 1999). While children with mental retardation tend to have delays in gross motor skills, children with autism tend to have delays in their fine motor skills (Mesibov et al., 1997). Understanding the difference in symptom presentation between individuals with autism

and mental retardation versus those who solely have autism or mental retardation, will be vital in insuring that children are receiving the appropriate services and interventions in the medical and education system.

ADHD

Attention-Deficit Hyperactivity Disorder as defined in the DSM-IV-TR states that six out of nine symptoms under the inattentive or hyperactive/impulsive subtypes of ADHD must be met for a qualification under this category. For a diagnosis of the combined type, present in the individual must be six of the nine symptoms of both subtypes. Symptoms must create impairment in two or more settings (e.g., school, home, neighborhood), and must be present before the age of seven. In addition, impairment in social, academic, or occupational functioning must be clinically significant, and must not be better accounted for by any other disorder.

Symptoms of autism in children can be mistaken for symptoms of Attention-Deficit Hyperactivity Disorder (ADHD) due to similarities in the presentation of both disorders (Mesibov et al., 1997). Although symptoms of inattention, hyperactivity, or impulsivity are exhibited in children with autism and ADHD, the DSM-IV-TR excludes the diagnosis of ADHD in children with Pervasive Developmental Disorder as a result of differences that exist in the underlying reason for the symptoms (APA, 2000; Mesibov et al., 1997). For example, mental retardation is a premiere factor in autism that causes the ADHD like symptom presentation (Mesibov et al., 1997). While children with autism are not diagnosed with ADHD, some children with autism are prescribed psychotropic medication to treat the ADHD like symptoms (Loveland & Tunali-Kotoski, 2005). Concurrently, the display of behaviors similar to those displayed in children with ADHD typically changes with the age of the child with autism. Due to lower mental age or developmental level, younger children exhibit more motor activity, while older children with higher levels of development or mental age maintain symptoms of inattention

and distractibility but exhibit less hyperactivity (Loveland & Tunali-Kotoski, 2005). Additional characteristics of children with autism exhibiting ADHD like behaviors include poor concentration, behavioral outburst, low levels of frustration tolerance, short attention spans, difficulty following instructions given verbally, and experience obstacles in discriminating between cues in environment that are considered to be important and/or irrelevant to others (Loveland & Tunali-Kotoski, 2005; Mesibov et al., 1997; Whitman, 2004).

Communication Disorders

Impairment in expressive and receptive language as experienced by children with autism can easily be mistaken for a developmental language disorder, but like ADHD, criteria met for a Pervasive Developmental Disorder disqualifies the child for a DSM-IV-TR diagnosis of a communication disorder (i.e. expressive language disorder, mixed receptive-expressive language disorder, or a phonological disorder; APA, 2000). While the presentation of autism looks similar to that of other communication disorders or developmental language disorders in the acquisition of receptive and expressive language, certain symptoms distinguish the disorders. Social relationships are not as impaired in children with developmental language disorders, and these children make attempts to engage others in communication through eye contact, gestures, and other nonverbal approaches (Mesibov et al., 1997; Wing, 2005;). In contract, children with developmental disorders have problems with articulation, tend to choose words in their speech that are incorrect, and omit words of importance; whereas children with autism who have verbal abilities may (Klinger & Dawson, 1996; Mesibov et al., 1997). Language difficulties as seen in the use of pronoun reversals and echolalia are often found in children with autism versus children with communication disorders. Lastly, children with autism experience impairment in language comprehension (Mesibov et al., 1997).

Gender Differences

Gender differences have been reported with males having a 4 to 1 ratio of autism in comparison to females (APA, 2000). These differences have been well documented throughout the years (Dyches, Wilder, Sudweeks, Obiakor, & Algozinne, 2004). Furthermore, females with autism typically function in the more severe mental retardation range and exhibit more severe symptoms when compared to males (Klinger & Dawson, 1996). However, when mental retardation is not a factor in both females and males with autism, less impairment is evident in females in comparison to males (Klinger & Dawson, 1996).

Autism and Socio-economic Status

Historically autism was found more commonly in families of wealth (Kanner, 1943); however, Schopler, Andrews, and Strupp (1979) found no differences to exist in the distribution of autism as it relates to socioeconomic status if presenting symptoms of autism are used for diagnosis and not external factors related to parent characteristics. Results also indicated that no significant differences exist in the presentation of autism by socioeconomic status (SES). At the same time, Cuccaro, Wright, Rownd, and Abramson (1996) revealed that professional perceptions of autism do not appear to be influenced by membership within an ethnicity group when presented with vignettes, but membership in SES groups did influence the perception of 185 professionals regarding the diagnosis of autism. These professionals included child psychiatrists, school psychologists, and school-based speech-language pathologists. In fact, a greater likelihood for a diagnosis of autism was endorsed for the vignettes with a higher SES than identical vignettes when the high SES was interchanged with low SES. These results confirm that disparity exist in the way in which SES is weighted by professionals when providing a diagnosis despite the absence of an actual role of SES in the presentation of autism (Cuccaro et al., 1996; Stone, 1987).

Referrals for special education consideration are often obtained from teachers and parents. Whereas Caucasian parents are reportedly more likely than minority parents to refer their children for special education evaluation, teachers were more likely to refer minority children for special education evaluation (Gottlieb, Gottlieb, & Trongone, 1991). In addition, research suggests that parents from higher SES are more proactive in obtaining treatment and services for their children, whereas parents from low socioeconomic levels may be aware of problems in the child, but may not have the resources to advocate for such services in schools (Palmer, Blanchard, Jean, & Mandell, 2005; Schopler et al., 1979). Parents from higher SES were also shown to be more detailed in their responses to open ended questions on questionnaires regarding their child's behavior and symptoms versus those parents from lower SES who provided only brief responses on identical forms (Schopler et al., 1979).

Misperceptions regarding the high prevalence of autism in families of higher SES may result because parents of children with autism from families of wealth are more visible at conferences and other events relating to autism (Mackintosh, Myers, & Goin-Kochel, 2006) Further, lower-income parents of children with autism were found to use fewer sources of information, had fewer support systems including families and friends, and were least likely to attend organized meetings or gatherings regarding autism in comparison to middle and upper class families (Mackintosh et al., 2006). Results from this study highlight the importance of providing support to lower income families of children with autism and encouraging their participation in community support activities.

Autism and Culture

In order to understand the significant role that culture plays within autism, the definition of culture must briefly be explored. Genetically, individuals inherit physical characteristics such as skin color and hair texture; through these physical traits, individuals are often grouped together in categories with other individuals with similar features. Groupings by biological physical features are known as groups of race. The term race is often simultaneously used in place of the term ethnicity; however, using these terms interchangeably is incorrect. While ethnic groups do sometimes share physical characteristics such as skin complexion or certain genetic physical features, ethnic groups often are based upon the culture or common language the individuals of that group share (Brinkerhoff, White, & Ortega, 1992). For instance, while African Americans and individuals born in Nigeria with certain physical features such as a dark skin complexion may share the same ancestry, they represent two very distinct ethnic groups. Likewise, Hispanics can be of European ancestry or African ancestry, and therefore are not considered a racial group, but an ethnic group.

Culture is what distinguishes certain groups who share the same physical characteristics from each other, and is what makes these two groups separate ethnic groups (Brinkerhoff et al., 1992). Ethnicity results from the transmission of culture intergenerationally through socialization (Brinkerhoff et al., 1992). As defined by Singer (1987), culture is "a pattern of learned, group-related perceptions—including both verbal and nonverbal language, attitudes, values, belief systems, disbelief systems, and behaviors—that is accepted and expected by an identity group" (p. 6). Through perceptions, individuals take stimuli from their external environment and select, evaluate, and organize these stimuli through an internal process (Weru, 2005). Internal processes or perceptions are influenced by beliefs, values, attitudes, and worldview (Weru, 2005). Hence, the diagnostic process of autism may be influenced by the

culture of the pediatrician or school psychologist diagnosing autism, the cultural beliefs of the parents regarding what is abnormal behavior and worthy of medical or educational attention, and concurrently influenced by the behavior display of symptoms in the child with autism that may be culturally driven.

Ethnic Disparity

There are indications of both under-representation and over-representation of minorities in the autism spectrum. Mandell et al. (2002) revealed that on average Philadelphia Medicaid-eligible Latino children were diagnosed with autism at 8.8 years of age and Philadelphia Medicaid-eligible African American children were diagnosed with autism at age 7.9 years of age, whereas Philadelphia Medicaid-eligible Caucasian children were diagnosed at 6.3 years of age. Discrepancies were still found even after adjusting the entry age of first visit. Three times as many visits in addition to three times the time period were required for African American children to receive a diagnosis of autism (Mandell et al., 2002). In other words, African American children spent almost 13 months more than Caucasian children in the mental health system before they received a diagnosis of autism. Limitations of the Mandel et al. study included a lack of information regarding the severity of autism for each case. Severity of autism could influence the rate at which a diagnosis is issued.

Despite this limitation, Mandell et al. found that first visits to a specialty health clinic produced a diagnosis of autism in 72% of Caucasian children and in 58% of African American children. Suggested reasons for these percentages included a delay in referral by the pediatrician that is potentially associated with a lack of knowledge regarding autism. It was also suggested that the delay was due to reluctance to give the diagnosis as a result of the emotional distress associated with such diagnosis. Research from this study indicated that factors related to sociocultural factors (e.g., ethnicity, SES) may be associated with the discrepancies seen in

diagnostic rates between Caucasians and African Americans. Physician expectations may vary as related to the influence of ethnicity/race on treatment and services; therefore, physicians may more readily screen for autism among Caucasian families, but fail to screen as quickly in African American families (Mandell et al., 2002).

Knowledge regarding the length of time it takes African American children to be identified under the category of autism in the educational system compared to other cultural groups is not known. What is known is that the disproportionate placement of African Americans in special education has been a consistent problem in the field of education and worthy of mention. Overrepresentation is said to exist when a disproportionate number of students from certain groups are placed in special education at a percentage that is greater than the total percentage of that group found in the school population (Harry & Anderson, 1994). Historically disproportionate placement occurs in categories of disorders that require clinical judgment versus those that are based upon more biologically based criteria (Harry & Anderson, 1994). Although previous research in the area of disproportionate placement has focused on the overrepresentation of African Americans in the educational system in categories such as mental retardation, severe emotional disturbance, and attention-deficit hyperactivity disorder, the disability category of autism is not exempt from this discussion (Oswald, Coutinho, Best, & Singh, 1999). This writer hypothesizes that the historical lack of public and professional awareness regarding autism combined with the low incidence rate of this disorder in general are factors that have kept this disorder under the radar of public scrutiny.

Similar to the categories of mental retardation, severe emotional disturbance, and attention-deficit hyperactivity disorder, African Americans with autism are disproportionately placed in this disability category. Dyches et al. (2005) examined the educational classification trends in the educational system from 1998 – 2002 based upon the Annual Reports to Congress

regarding the implementation of the Individuals with Disabilities Education Act (IDEA) and the 2000 census data, African Americans and Asian/Pacific Islanders were overrepresented in the category of autism whereas Hispanics and Caucasians were identified less than expected. Although African Americans represented only 12% of the US population from 1998-2002, 21% of the children classified under the category of autism in 1998-99 were African American. In contrast, Hispanics represented between 11% and 14% of the population from 1998-2002, but the percentage of children classified under autism who were Hispanic stayed relatively stable at 10% throughout the time period. Given these facts, it appears that some Hispanic children with autism were not properly identified and failed to receive the appropriate educational services.

Difficulty exists in determining if there are differences in the behavioral symptoms of autism across cultures because most epidemiological studies in general do not report or conduct separate analyses based upon the racial or immigrant status of the population studied (Dyches et al., 2004) When examining the epidemiological studies that have been conducted in the past that endorse differences among races and immigrants, most have utilized small sample sizes, and lack rigorous statistical analysis. Whereas some researchers continue to endorse the notion that there still remains unsupported evidence for any hypothesis that associates race or immigrant status and autism, other researchers believe the paucity of research examining cultural differences leaves a lack of evidence to support this argument (Fombonne, 2005).

Based upon evidence gathered from other studies, Mandell and Novak (2005) proposed that possible cultural differences may exist in the symptom presentation of autism due to factors that are genetic and environmentally related. Unfortunately while studies have been conducted to examine differentiation of underlying phenotypes between the disorders in the Autism Spectrum, no studies have been conducted to date that examine autism symptom presentation or

behavioral phenotypes based upon ethnic groups (Dyches et al., 2001; Mandel & Novak, 2005). Possibilities given by Cuccaro et al. (1996) for the lack of studies include the following:

> (a) The residual influence of early descriptors suggested that individuals with autism were from (explicitly) upper SES and (implicitly) white families; (b) The neurobiological basis of autism may lead to the assumption that if a disorder is biologically driven then the study of nonbiological variables such as culture is less critical; (c) The apparent lack of differences among various cultures in the expression, incidence, and prevalence of autism (p. 462).

Contrary to the hypothesis that the behavioral manifestations of autism are exhibited across cultures with little variation; there are findings from previous research conducted with children from Africa and Asia that suggest cultural differences in the behavioral presentation of autism. For example, Lotter (1978) conducted a study examining behavior manifestation of autism in nine cities in 6 African countries. A total of 1,312 children were screened for behavior that met criteria for autism or presented with a medical history as reported in case records or by informants that was indicative of a medical diagnosis of psychosis, autism, or schizophrenia. While thirty of these children had autistic-like behaviors, only nine met Western criteria for autism. In comparison to the British sample, the African sample exhibited a higher frequency of manipulating objects through spinning, spinning self, covering ears, and jumping that was equal to or lower than the behaviors exhibited by the children in the British sample. The African sample also did not engage in self injurious behaviors, excessive ritualistic play, or flapping. Notably, the African sample engaged in repetitively manipulating objects in a "crude" manner that consisted of carrying and banging objects. According to Lotter (1978), the study confirmed that autism does exist in Africa, but at lower frequencies based upon the countries visited in Africa. In addition, key features of symptoms of autism such as self injurious behaviors,

excessive ritualistic play, or flapping were uncommon in the African sample. Due to the low numbers of children identified, Lotter (1978) reported a lack of epidemiological significance for the study.

Seo (1992) conducted a study with a sample of 100 South Korean, Korean American, and American children with autism. The Autism Rating Scale (ARS) and Autism Behavior Checklist (ABC) were two instruments utilized to compare behaviors among the sample groups in the area of language and developmental disturbances, self-stimulatory behaviors, social impairments, and overall behavior disturbance. A comparative group of normal children from each culture served as the control group. Fewer problems on all symptoms were consistently found in the South Korean children in comparison to Korean American and American children. After dividing the group into three age levels, American children at ages 13 to 20 were found to display less symptoms of autism on 6 out of 9 subscales. Overall, the ARS provided significant differences between the two groups whereas the ABC did not. In addition, no significant difference was found between the normal developing South Korean, Korean American, or American children in the control groups. Therefore, results were reported to indicate true differences in the expression of autism between the American and South Korean culture, and not due to a difference between parental perceptions on the rating instruments (Seo, 1992).

To challenge the Western diagnostic perspective of autism as conceptualized from a framework of impairment in social deficits and social competence, Connors (1992) explored the perception of autism from the cultural perspective of the Navajos. Through 16 months of anthropological fieldwork with Navajo families and staff of individuals with autism and individuals with other disabilities, research findings suggest that social competence and normality are viewed from a broader context and are defined differently in the Navajo community. Individuals with disabilities at all ages are viewed as children, and therefore role

expectations for these individuals were scaled down to their personal level of ability. Within this framework, individuals with disabilities contributed to society through their appropriate roles. Likewise, individual strengths and skills that allowed individuals with disabilities to engage in more adult roles, such as contributing to the family through learning a trade or some smaller contribution such as learning to dress self, also helped to identify them as socially competent. Connors (1992) concluded that Western definitions of autism may lack validity cross-culturally, and suggested that future definitions and criteria used to diagnose autism take in consideration social and cultural factors.

Daley (2003) conducted a study following the pathway to diagnosis in 95 families with children with autism in urban India from the recognition of first symptoms to actual diagnosis. Background information provided in this study indicated extensive research on autism among Indian researchers since 1962 that Western literature has ignored. To date, the Daley study is the first to examine the process that takes place during symptom recognition and actual diagnosis in India. Findings from this study indicate that in comparison to parents of children with autism in the United States (US), parents of children with autism in India notice differences in the behavior of their children 6 to 10 months later than American parents. Symptoms noticed first among Indian parents were social impairment; symptoms typically noticed and revealed first to physicians among American parents are language development (Coonrod & Stone, 2004). Diagnostic differences were found depending on what symptoms were recognized in parents and communicated to physicians. On average, it took Indian parents 2 years from the time they initiated help to obtain a first diagnosis. It should be noted that the Daley study examined help seeking behaviors in parents of children with autism in India, but did not utilize a sample for American parents of children with autism. American references throughout study was used to provide the reader with a background to compare the parents of children with autism in India.

Socioeconomic differences were also believed to be influential in determining who obtained a diagnosis in India (Daley, 2003). As in the US, families of higher SES tended to be savvier regarding their awareness of normal and abnormal development. In addition, these families had the resources to seek out medical opinions from multiple professionals. It should be noted that the factor of SES were not empirically studied in the Daley study, but endorsed as a common belief among families and professionals in India during the gathering of qualitative information.

Important information gathered from the Daley study indicates that child development norms are shaped by culture, and can have a profound influence on what symptoms are recognized and considered problematic. Also, the rate of diagnosis is dependent on what symptoms parents report since some physicians may rely only on what is reported by parents instead of eliciting further information. Low levels of diagnosis of autism among families of lower SES in India were also hypothesized to occur because no difference in course of treatment exists between children diagnosed with autism as opposed to the general label of mental retardation. This is due to the limited number of specialists in speech therapy or child psychology to provide specialized services beyond what is needed to address mental retardation. Future epidemiological studies looking at prevalence and incidence among Indian and other cultures should take in consideration the findings from this study.

Most recently, Weru (2005) conducted a study examining the influence of culture on the behavior symptoms exhibited by 40 African Americans and 40 Kenyans utilizing the Autism Behavior Checklist (ABC) and the Gilliam Autism Rating Scale (GARS). Comparison groups of 10 normal developing African American and 10 Kenyan children were used to control for differences in perceptions among African American and Kenyan raters. Results revealed that Kenyan individuals with autism exhibit significant disturbance in development and exhibit more

impairment in social interaction, communication, stereotyped behaviors, and self-help skills than African American children with autism. Similarly to what was seen between the American and South Korean children with autism in the study conducted by Seo (1992), as age increased, decreases in overall autism behavior symptoms were found in African American children with autism whereas an increase in behavior symptoms occurred in the Kenyan children with autism. The increase in symptoms was hypothesized by Weru to be a result of the lack of early intervention programs in Kenya. Seo (1992) provided a similar explanation for the increase in symptoms among the South Korean group. No significant differences on any behavioral symptoms were found between the group of normally developing African American and Kenyan children used as the control group. Again, this was similar to the result found in the Seo study. These findings suggest that cultural differences may exist in the display of behaviors among children with autism. Furthermore, early intervention programs in America with children with autism appear to be effective in decreasing problematic behavior in children with autism.

With the exception of the Weru study, no empirical research has been conducted to date examining autism among African Americans; limited research has been conducted with Hispanic Americans and Asian Americans. In addition, empirical studies examining autism have primarily been conducted with a Caucasian population (Dyches et al., 2001). Hence the generalizations regarding the lack of cultural differences among individuals with autism have the potential of not being accurate. Consequently, assessment measures and interventions for treating the behavioral symptoms of autism may lack validity across cultures since most research in the field of autism is conducted without culturally diverse participants.

Thus, the timing of and the actual presentation of behavioral symptoms of autism may differ not only as a result of culture, but culture may have a significant influence on the behaviors that illicit parental concern and parent's decision to share these concerns with

clinicians (Dumont-Mathieu & Fein, 2005). As a result, close attention needs to be paid to the psychometric properties of autism screening tools in diverse cultural and socio-economic groups because interpretation of questions on autism assessment measures may be interpreted differently by cultural and socio-economic groups, and as a result yield differing results (Dumont-Mathieu & Fein, 2005). Furthermore, cultural variables are not captured in diagnostic tools because these diagnostic tools were never designed to study such variables (Brown & Rogers, 2003). Although the DSM-IV-TR indicates that cultural differences should be considered, how to modify the autism criteria to accommodate cultural differences is not clear. The potential lack of validity of these measures in identifying and diagnosing autism across cultures may explain the over-identification and under-identification of some cultural groups in the American public school system. As discussed in this section, the limited and lack of research with individuals from African American, Hispanic American, and Asian American cultural groups is problematic.

Additionally, disparities in health care utilization among minority groups are thought to be one reason that African American children with autism are identified at a later age than Caucasian children with autism. Research does indicate that African Americans underutilize health care even after family income and parental education are adjusted (Flores, Bauchner, Feinstein, & Nguyen, 1999). Reasons suggested for underutilization of general and mental health care by minorities include financial burden, health insurance coverage, alternative sources of support (i.e. church or family members), stigma, differences in how clinicians and families conceptualize mental illness, and barriers to obtaining services (Krauss, Gulley, Sciegaj, & Wells, 2003; Mandell et al., 2002; Witt, Kasper, & Riley, 2003). However, when minorities do utilize health care services, discrepancies still exist.

Statement of the Problem

Physicians and psychologists are frequently called upon to make critical decisions regarding the diagnosis of developmental disorders. Their decisions have profound influence on the developmental trajectory of the child with a disability and the child's family. Thus, understanding the role of professionals in diagnosing autism and other developmental delays in the schools is vital. Families of children with autism have "expectations" in congruence with other parents who have "normal" children since children with autism appear "normal" and are not born with any indication of physical, intellectual, or behavioral abnormalities (Dyches et al., 2001). Unlike parents who become aware of their child's disability at birth, parents of children with autism are faced with the taxing process of "losing" their child who was expected to be "normal" (Dyches et al., 2001). For that reason, physicians and psychologists must play an important role in helping these families maneuver smoothly through the diagnostic process and obtain services. Research investigating the factors that are influential in impeding identification and intervention for children with autism from all ethnic and socioeconomic background is significant and warranted.

Similarly, it is important for school psychologists to be familiar with the symptoms of autism and be able to draw inferences from assessment data in order to base their decisions and make real life decisions regarding the diagnosis of autism. What is not known is whether they engage in similar techniques as physicians and rely more heavily upon their clinical judgment than assessment data (Glascoe & Dworkin, 1993). It is also not known if their perceptions of autism are based upon nonfactual stereotypical information regarding which cultures and SES groups are most likely to present with symptoms of autism, and the effects of these potential bias in terms of over-diagnosis and under-diagnosis of autism across cultures. These are important

issues to consider given the improved outcomes associated with early and accurate identification of autism.

In summary, limited information has been provided in research addressing or identifying what role SES and culture of the client play in physicians' and psychologists' interpretation of symptoms consistent with a diagnosis of autism (Cuccaro et al., 1996). Discrepancies do indeed exist in actual practice between the diagnostic rates of children with autism in various cultural groups (Mandell et al., 2002). Understanding the role that culture plays on the behavioral presentation of symptoms of autism; understanding how the beliefs and clinical judgment of professionals are influenced by ethnicity and SES; and how these factors influence their diagnostic decisions in early identification of diverse groups of children and in developing interventions that are effective with diverse cultural groups are said to be critical for future research to explore (Mandell et al., 2002; Mandell & Novak, 2005)

Research findings in various studies have endorsed autism to occur evenly in all cultures no matter the socio-economic level of the population; however, the majority of the epidemiology studies have not studied race, and have used Western definitions to conceptualize autism when studying other non-Western cultures. Autism does not have a known etiology that is biologically based so the diagnostic criteria and procedure for diagnosing autism is based upon subjective judgment. In the medical and educational community, autism remains a disorder that is not diagnosed evenly across cultures. Given these facts, reasons for discrepancies in the diagnostic rate of autism in the health community and the over and under-identification of autism among diverse cultural groups in special education, may lay in differences in the interpretation of symptoms by physicians, parents, and school personnel. Additional variables such as race, SES, health care utilization, parental and physician knowledge of autism, physician-parental

relationships, and cultural background differences between physicians and parents may also have some influence on how symptoms of autism are interpreted.

Understanding the factors that may be influential in impeding early identification and diagnosis of autism among certain cultures is important in that early diagnosis provides access to appropriate educational and medical services to children with autism and their families (Lord & Risi, 2000). Intensive early intervention also help to minimize the negative symptoms of autism while maximizing long term benefits of such intervention (Ozonoff & Rogers, 2003; Shah, 2001). Currently, factors that influence interpretation of autistic symptoms by school psychologists are not well understood. Addressing these issues will be vital in providing a free and appropriate education as early as possible to children with known and unknown disabilities.

CHAPTER III

METHODOLOGY

The influence of ethnicity and socioeconomic status of children on school psychologists' clinical decisions was examined through a 3 x 2 experimental design using an analogue approach. Analogue studies are beneficial because variables of interest such as ethnicity, gender, and/or SES that are believed to influence professional decisions can be manipulated while other variables in the cases such as symptoms of child can be kept constant. In addition, through just one case, comparisons of perceptions of professionals can be obtained from a sample that includes an array of disciplines in various locations throughout the United States (Pring, 1996). Likewise, internal validity on analogue studies is strengthened because all information within the cases are identical, and manipulation of independent variables are the only changing factor (Pring, 1996).

Participants

Participants in the current study were randomly selected from a nationwide sample of current members of the National Association of School Psychologist (NASP) as provided by the research office of this national association in 2007. Contact information for randomly selected participants was obtained from INFOCUS at the request of the research director of NASP. INFOCUS is a marketing agency that manages the mailing list of members for NASP. Demographics for the population sampled from NASP included a total of 21,979 active paid members. Of that total, the current study obtained a random sample from 14,332 regular members. Specific demographic information for the regular members was not available, but Table 1 provides the demographic information from the active paid members of the organization that was available. Percent could not be obtained for the information in Table 1 due to the information provided in each category not equaling the total number of active members.

TABLE 1
Demographics of NASP Population (N=21,997)

Item		**Frequency**
Gender		
	Female	Not Available
	Male	Not Available
Ethnicity		
	White/Caucasian	12,228
	African American	533
	Chicano/Mexican American	674
	Other Hispanic	347
	American Indian	118
	Asian American	251
	Other	5
Education Level		
	BA or BS	884
	Master's Degree	1,941
	Master's Degree plus 30 hours	4,880
	Specialist Level (Ed.S.)	3,217
	Doctoral Degree	3,851
	Other	479

TABLE 1 (continued)

Item		**Frequency**
Employment		
	College/University	1,005
	Mental Health Agency	172
	Private Practice	23
	Private School	351
	Public School	10,549
Member Type		
	Regular Member	14,332
	Retired Member	1,215
	Student Member	5,471
	Transition Member	961

Based upon information gathered in a power analysis during the proposal process, a total of 144 participants were needed. To accomplish this, participation in the study was solicited from 504 professionals in school psychology throughout the United States with regular membership status in the National Association of School Psychologists. From this sample, a response rate of 30% was expected. Exceeding study expectations was the actual response from 308 participants which translates to a return rate of 61.11 percent. States represented among the responders included all states excluding West Virginia, Alabama, South Dakota, and Arkansas. Not included in the 61.11 percent return rate was two additional completed surveys received. One was returned without the demographics sheet, and when notified regarding the missing document, the participant did not return the replacement demographic sheet that was sent. The

second survey was mailed by a participant with the identifying number marked out. Due to not being able to identify the type of vignette participant received, this survey was not included in study. Fifteen surveys were returned blank by those surveyed and were not included in the 61.11 percent return rate. Two emails received by researcher indicating nonparticipation in the study by two participants surveyed were also not included in return rate.

Samples of selected participants are believed to be a good representation of the diverse makeup of regular members of the National Association of School Psychologists. Due to limited information available regarding the demographics found in the general population of members of NASP, the sample demographics is not believed to be representative of the general population. Therefore, study results will not be generalized to the general population of members of NASP.

The sample in the current study consisted of 253 school psychologists (82.1%), 13 school psychology professors (4.2%), 13 with dual employment as a school psychologist and professor (4.2%), 1 student completing a school psychology internship (.3%), 27 in a profession classified as other (8.8%), and 1 (.3%) with no response under current position. Included under the category of other were those in private practice, former school psychologists now working in other positions in the educational system, consultants, supervisors of school psychologists, and directors of special education programs or guidance counseling programs. Of the 308 participants, 236 were female (76.6%) and 72 were male (23.4%). Two hundred and eighty nine of the participants were White (93.8%), 6 were Hispanic (1.9%), 6 were African American (1.9%), 3 were Asian (1.0%), and 4 were Biracial (1.3%). Number of years in the profession ranged from 6 months to 39 years with a mean of 13.3 years (SD=9.94).

Education level of participants included 129 who had completed a specialist level degree (41.9%), 95 who completed a master's degree (30.8%), 83 who completed a doctorate degree

(26.9%), and 1 with no response under level of education (.3%). Of the 308 school psychologists, 197 (64%) primarily worked with children of White or European descent (not Hispanic), 43 (14%) primarily worked with children of African American or Black descent, 38 (12.3%) primarily worked with children of Hispanic/Latino descent, 1 (.3%) primarily worked with children of Asian descent, 1 (.3%) primarily worked with children of Native American or American Indian descent, 24 (7.8%) primarily worked with children from the various ethnic groups listed above. When asked what the predominant socioeconomic status (SES) of the population primarily worked with, 164 (53.2%) reported children on free/reduced lunch, 127 (41.2%) reported children not on free/reduced lunch, and 11 (3.6%) indicated they equally work with children on and not on free/reduced lunch. Demographics from the sample are depicted in Table 2. Also depicted in Table 2 are demographics regarding training and expertise in areas of exceptionality; levels of experience and training in working with children from diverse cultures; and levels of experience and training in working with children with special needs.

TABLE 2
Demographics of Sample (n=308)

Item		**Frequency**	**Percent**
Gender			
	Female	236	76.6
	Male	72	23.4
Ethnicity			
	White/Caucasian	289	93.8
	African American	6	1.9
	Hispanic	6	1.9
	Biracial	4	1.3
	Asian	3	1.0
Education Level			
	Master's Degree	95	30.8
	Specialist Level (Ed.S.)	129	41.9
	Doctoral Degree	83	26.9
	Did Not Respond	1	.3
Current Position			
	Student Intern	1	.3
	School Psychologist	253	82.1
	Professor	13	4.2
	School Psychologist/Professor	13	4.2
	Other	27	8.8
	Did Not Respond	1	.3

TABLE 2 (continued)

Item		**Frequency**	**Percent**
Age of Population Primarily Seen			
(categories not mutually exclusive)	Early Childhood (pre-K)	115	37.3
	Elementary (K-5)	234	76.0
	Middle School (6-8)	167	54.2
	High School (9-12)	135	43.8
Ethnic Group Primarily Seen			
(categories are mutually exclusive)	Asian	1	.3
	African American	43	14.0
	Hispanic	38	12.3
	Native American	1	.3
	White/Caucasian	197	64.0
	Multiple Ethnic Groups	24	7.8
	Did Not Respond	4	1.3
Socioeconomic Status Primarily Seen			
(categories are mutually exclusive)	Free/reduced lunch	164	53.2
	Not free/reduced lunch	127	41.2
	Both	11	3.6
	Did Not Respond	6	1.9

TABLE 2 (continued)

Item		**Frequency**	**Percent**
Primary Demographic Area of School District			
(categories are mutually exclusive)	Rural	68	22.1
	Urban	81	26.3
	Suburban	151	49.0
	Mixed	6	1.9
	Did Not Respond	2	.6
Areas of Exceptionality with Specific Training and Expertise			
(categories not mutually exclusive)	Autism	211	68.5
	ADHD	244	79.2
	Behavior Disorder	229	74.4
	Child Abuse/Neglect	88	28.6
	Developmental Delay	164	53.2
	Early Childhood	122	39.6
	Hearing Impairment	26	8.4
	Intellectual Giftedness	76	24.7
	Language/Speech	30	9.7
	Learning Disability	272	88.3

TABLE 2 (continued)

Item		**Frequency**	**Percent**
Areas of Exceptionality with Specific Training and Expertise (continued)			
	Mental Retardation	181	58.8
	Other Health Impairment	116	37.7
	Physical Impairment	23	7.5
	Traumatic Brain Injury	74	24.0
	Visual Impairment	10	3.2
Experience in working with Diversity			
	Minimal to None	15	4.9
	Some	140	45.5
	Much	97	31.5
	Extensive	56	18.2
Training in working with Diversity			
	Minimal to None	28	9.1
	Some	182	59.1
	Much	79	25.6
	Extensive	18	5.8
	Did Not Respond	1	.3

TABLE 2 (continued)

Item		**Frequency**	**Percent**
Experience in working with children with special needs			
	Minimal to None	0	0
	Some	16	5.2
	Much	106	34.4
	Extensive	186	60.4
Training in working with children with special needs			
	Minimal to None	0	0
	Some	32	10.4
	Much	148	48.1
	Extensive	128	41.6

Instruments

Instruments included in this study consisted of a demographic sheet for the personal data of participants (see Appendix B), vignette with brief description of presenting problems for one child (see Appendix F), a survey that includes questions pertaining to the vignette in Appendix F (see Appendix G), and a photo illustrating the ethnicity and gender of the participant (see Appendix C). In addition, study participants received a cover letter (see Appendix H and J) and a postage paid envelope. The cover letter in Appendix H provided the participants with an introduction to the study, and provided instructions on completing and returning the survey. The cover letter in Appendix J also provided instructions on completing and returning the survey to

those who had not returned their surveys 8 weeks after original was sent. Four weeks after the initial survey packet was a sent, a follow up reminder was sent in form of a post card (see Appendix I).

Demographic Questionnaire

On the demographic questionnaire, participants were asked to complete questions describing themselves in terms of their educational background, ethnicity, and training and experience working with children from diverse ethnic and behavioral backgrounds (see Appendix B). Information in the questionnaire was chosen because these items were thought to provide a better understanding of study participants, and these items were thought to have some influence on how participants respond to the vignettes.

Vignettes

On the next portion, study participants were asked to answer questions based upon their perceptions after reading a vignette describing a male child with behaviors consistent with a DSM-IV-TR diagnosis of autism (see Appendix E). Cases depicted in the vignettes in the current study varied with regard to the presentation of ethnicity (e.g. African American, Caucasian, and Hispanic) and socioeconomic status (e.g. low socioeconomic status or high socioeconomic status). Gender, age, and presenting problem were held constant in all cases with each description depicting a male child of 5 years old with behaviors consistent with a DSM-IV-TR diagnosis of autism. A total of six different scenarios were included in this study (African American male from a low SES; African American male from a high SES; Caucasian male from a low SES; Caucasian male from a high SES, Hispanic male from a low SES; and a Hispanic male from a high SES.)

The current vignette utilized in the present study was created by condensing two autism vignettes from two separate studies (Cuccaro et al., 1996; Fournier, Rollins, Thomas-Tasby,

Dixon, & Riccio, 2004) into one vignette. Cuccaro and colleagues (1996) developed autism vignette A in Appendix D, and Fournier and colleagues (2004) developed vignette B in Appendix D. Vignettes in Appendix F are the result of combining the descriptions of vignette A and B from Appendix D into one description. Each original vignette will be discussed briefly.

The autism vignette (vignette A in Appendix D) created by Cuccaro and colleagues (1996) depicted a four year old male with a socioeconomic status of either low SES or high SES. Ethnicity depicted in their autism vignette comprised of African American and Caucasian; and behaviors depicted by characters were consistent with a diagnosis of autism. Cuccaro and colleagues (1996) also created a vignette with behaviors consistent with a diagnosis of ADHD. The reliability and validity information for the vignettes were not reported. Only the autism vignette from their study was utilized to create the vignette in the present study (Cuccaro et al, 1996).

Vignette B from Appendix D was developed by one faculty member and reviewed by a team of three doctoral students and another faculty member for a pilot study (Fournier et al., 2004). Revisions were made based upon the feedback of the team. Vignettes from the pilot study were of an eight year old male, four ethnicity groups (African American, European American, Hispanic American, and Asian American), high and low SES, and depicted various disorders with symptoms associated with autism, ADHD, and oppositional defiant disorder. Only the autism vignette from that study was used to create the autism vignette in the present study.

Ethnicity groups chosen for the vignette in the current study were based upon the literature that indicates African American and Hispanic children with autism are diagnosed at later rates than Caucasian children in the medical system, while being overrepresented (African American) and underrepresented (Hispanic) in the category of autism in the educational system

(Dyches et al., 2005; Mandell et al., 2002). Furthermore, differences are also reported regarding children from higher SES being more likely to be diagnosed with autism versus those from lower SES (Cuccaro et al., 1996; Daley, 2004). Gender of vignette was chosen based upon the literature that indicates males have autism at rates four to five times higher than females (APA, 2000). Age (5 years old) for the characters in the vignette was chosen because most children with autism are diagnosed between the ages of 5 and 7 (Glascoe & Dworkin, 1993; Mandell et al., 2002). Behavior symptoms displayed in the vignette for the current study are consistent with the criteria for autism in the DSM-IV-TR (see Appendix E). Vignettes or case studies were utilized in the current study because the use of vignettes are recommended in general because they are cost-efficient, allow opportunity to manipulate data in an experimental manner, and serve as a way to measure behavior that may be too difficult to measure directly (Schigelone & Fitzgerald, 2004).

Survey Questionnaire

The survey questions (see Appendix G) that follow each vignette were taken from a combination of places. Questions related to the seriousness of the child's problem, the unusualness of the behavior, and if the child's behaviors warranted immediate attention were taken from a questionnaire developed by the current author and colleagues in a pilot study examining the influences of ethnicity and SES on teacher perceptions of children (Fournier et al., 2004). Questions ask participants to use a 4-point likert scale to indicate how likely a list of developmental problems pertained to the child's presenting clinical problem were created based upon the suggestions provided by Cuccaro et al. (1996) on improving their previous study. Their study required participants to rank developmental problem choices on a scale from 1 to 8 with 1 being the most likely and 8 being the least likely. It was hypothesized by Cuccaro and colleagues that information may have been lost during the ranking since most participants in

their study only ranked one or two choices. The developmental categories (e.g. mild mental retardation, cultural deprivation, developmental delay) used in the current study were used in the original Cuccaro et al. study with the exception of the categories of hearing impaired and normal developing child. These two additions were suggested by Cuccaro and colleagues to be included in future replications of the study to provide additional suitable options to participants. Since the term developmental language disorder is no longer used in the DSM-IV-TR, this term was replaced with the term Expressive Language Disorder. Linguistic features of Expressive Language Disorder include delays in language development, speech and vocabulary that is limited, and the use of limited sentence types (e.g. imperatives, questions) and grammatical structure errors (APA, 2000). In addition, the term learning disability was taken out of the category list since other terms in the list (e.g. expressive language disorder, developmental delay, and mild mental retardation) were believed to be more appropriate. The learning disability term was replaced with the term emotional disturbance because the investigator thought an additional term was needed that related to the emotional presentation of symptoms found in the vignette. Lastly, an open ended question asking respondents to indicate which of the child's symptoms the respondent viewed as most critical to their decision was included in this study. This question was also a suggestion made by Cuccaro et al. (1996) for future studies to utilize in order to understand why respondents responded as they did. The author of the present study decided to keep this question open ended instead of providing forced responses so that no information was lost in understanding what respondent's perceived as being influential on their decisions.

Photo

A fictitious photo illustrating the person discussed in the vignettes (see Appendix C) was included in the present study because it is hypothesized that research studying the influence of ethnicity that utilize vignettes only can not guarantee that the attention of the respondent was

drawn to the ethnicity of the person depicted in the vignette description. Adding a photo that depicts the ethnicity of the person being discussed in the vignette is believed to combat the problem of respondents failing to read the ethnicity of the person in the vignette. While the photo will depict the gender and ethnicity of the child in the vignette, the photo is not able to depict the SES of the child; SES will be noted in the vignette description. In addition, the ethnicity and gender of the child in the vignette will also be highlighted in the vignette description. The reliability and validity of accompanying vignettes with a photo is not known, but the use of visual cues, such as a photo, was recommended by Schigelone and Fitzgerald (2004) as a way to ensure attention was drawn to the demographics of the character depicted in the vignettes.

Photo Development

Illustrations of the children depicted in the vignettes were created by a professional designer specifically for the present study. To ensure consistency throughout each illustration, the designer created identical photos with the only difference being in the ethnicity of the child. For example, the children's clothing, background scenery, activity the child is engaged in are all identical. The only difference in each photo is one child is depicted as African American, one child is depicted as Caucasian, and the last child is depicted as Hispanic. Because each child is illustrated in a photo individually, a total of three photos are utilized in the current study. To ensure equal levels of attractiveness exists between the two children depicted in the photos, photos were shown to faculty of African American and Caucasian ethnicities. After their input was gained, any changes to the photos were made and the updated photos were presented again to the faculty until a consensus regarding equal attractiveness amongst the children was gained.

Procedure

Survey Distribution

All potential survey participants were assigned a number. Numbers were assigned based upon the order each participant's name appeared on the list obtained from NASP and INFOCUS. To ensure effective tracking of surveys, return envelopes included in the survey packet mailed to each participant were coded with this assigned number. Survey packets were mailed to the address of participants as provided by NASP and INFOCUS. To ensure confidentiality, completed surveys received from study participants were separated from their returned envelopes and assigned a new number. This newly assigned number helped ensure surveys could not be traced back to respondents. The returned envelopes with the original assigned number were used to keep track of participants who returned surveys, and was also used for the incentive drawing (Appendix L).

Contents of Survey Packet

Survey packets included a cover letter with instructions, a demographic sheet, a fictitious photo of the child depicted in vignette, one vignette, survey questions, and a postage paid envelope (see Appendix B, C, F, G, and H). To increase response rate, a post card (Appendix I) was mailed to those participants who had not returned their surveys within 2 weeks. This post-card served as a friendly reminder for participants to complete and return their surveys. For those participants who had not returned their survey eight weeks after the initial mailing, a follow up letter, demographic sheet, vignette, survey, photos, and postage paid envelope was mailed to these participants.

Response Rate

To maximize the response rate, Dillman (2000) suggested the following four elements that surveys must have: 1) a questionnaire that is respondent friendly; 2) multiple contacts to

survey participants; 3) use of reply envelopes with first-class stamps; and 4) correspondence to participants that is personalized. Questions in the questionnaire in the current study followed element one by being easy to understand, used clear and precise language, and was brief in the number of questions asked. To increase survey response rate, three contacts consisting of a letter, survey packet, post card reminder to complete survey, and a replacement questionnaire was utilized in the present study. To personalize correspondence, a stamp was affixed to each envelope and each letter had the researcher's personal signature. As an incentive, a gift certificate to Barnes and Noble was given to one participant, randomly selected, who returned their completed survey. All return envelopes with the assigned number went into the drawing, one envelope was drawn, and the gift certificate mailed to the address of the individual drawn.

Vignette Assignments

Vignette sets for each packet were prearranged based upon the mailing list order of psychologists obtained from NASP. To ensure distributed vignettes were balanced, one third of school psychologist study participants received an autism vignette depicting an African American male, another one third received an autism vignette depicting a Caucasian male, and the last one third received an autism vignette depicting a Hispanic male. Within each vignette distributed by ethnicity, one half of the group received a vignette with a low SES and the other half received a vignette with a high SES. Each respondent received one assigned vignette that met the above criteria.

Vignette packets were split into six separate stacks based upon ethnicity and SES found in vignette description. Each stack had an equal number of vignettes. Numbers and letters were assigned to all stacks. Vignettes with a White/Caucasian ethnicity were assigned letter W, vignettes with an African American/Black ethnicity were assigned a letter B, and vignettes with a Hispanic ethnicity were assigned letter H. Vignettes with a high SES in stack A and B were

assigned a number 1, and vignettes with a low SES in stack A and B were assigned a number 2. For example, Caucasian vignettes with a high SES are represented by W-1; African American vignettes with a high SES are represented by B-1; Hispanic vignettes with a high SES are represented by H-1; Caucasian vignette with a low SES were represented by W-2; African American vignettes with a low SES were represented by B-2, and Hispanic vignettes with a low SES were represented by H-2. Six slips of paper representing the six vignettes that were included in the study had the above combination of assigned letters and numbers, and was placed in a box. Randomly selected from the box was a slip of paper with both a letter and number. Once letter and number are recorded next to the participant receiving that vignette packet, the slip of paper was returned to the box prior to the next letter-number combination drawn. Once all vignettes for a certain stack had been assigned to school psychologists, vignettes from that stack were not assigned to subsequent participants even if slip of paper representing that vignette stack was drawn from the box. The slip of paper representing that particular vignette stack was returned to the box, and another slip of paper was randomly drawn. This process was repeated continuously until all packets from each stack had been assigned and distributed equally across participants. Results are presented in Chapter IV.

CHAPTER IV

RESULTS

The purpose of the study was to investigate factors that may influence the diagnostic decision of school psychologists as it relates to identifying behavioral symptoms associated with autism in African American, Caucasian, and Hispanic boys of varying SES. Results of the data analysis are provided in this chapter. Analyses of the six research questions will follow summary results.

Survey Results

Table 3 provides a summary of the sample size, mean, and standard deviation from those items with a Likert scale. Regardless of case presented, the majority of respondents perceived the behaviors displayed in the vignette to be somewhat serious and somewhat unusual (range from (3.58 to 3.71 and 3.78 to 3.82)). With the exception of a few, the majority of responders, no matter the ethnicity or the SES of case, indicated the child's problems warranted immediate intervention (range from 1.00 to 1.01). The general agreement was to respond within the next few days or weeks (1.63 to 1.80). Autism was the disorder identified as "maybe" to "most likely" being the cause of the child's behavior problems (2.87 to 2.91). Endorsed almost unanimously was the child's presenting problems "not likely" being due to a normal developing child regardless of SES or ethnicity of case (range from 1.04 to 1.07). Items under the "Problem Due to" category are ranked in order by mean for total.

TABLE 3
Results of Questions by Ethnicity and SES of Case Study [Mean Score (SD) on Likert Scale]

Item	White	African American	Hispanic	High SES	Low SES	Total by Ethnicity	Total by SES
	n=104	**n=99**	**n=103**	**n=156**	**n=150**	**n=306**	**n=306**
Perceived Seriousness	3.58 (0.50)	3.66 (0.54)	3.71 (0.48)	3.66 (0.51)	3.63 (0.50)	3.65 (0.51)	3.65 (0.51)
	n=104	**n=97**	**n=103**	**n=154**	**n=150**	**n=304**	**n=304**
Unusualness of Behavior	3.82 (0.39)	3.81 (0.44)	3.78 (0.42)	3.80 (0.43)	3.81 (0.40)	3.80 (0.41)	3.80 (0.41)
Immediate Intervention Warranted	**n=99** 1.01 (0.10)	**n=97** 1.00 (0.00)	**n=97** 1.00 (0.00)	**n=150** 1.00 (0.00)	**n=143** 1.01 (0.08)	**n=293** 1.003 (0.06)	**n=293** 1.003 (0.06)
How Soon to Intervene	**n=90** 1.68 (0.75)	**n=94** 1.63 (0.83)	**n=97** 1.80 (0.94)	**n=143** 1.69 (0.85)	**n=138** 1.72 (0.84)	**n=281** 1.70 (0.85)	**n=281** 1.70 (0.85)
<u>Problem Due to:</u>							
	n=103	**n=99**	**n=104**	**n=156**	**n=150**	**n=306**	**n=306**
Autistic Disorder	2.87 (0..65)	2.89 (0.67)	2.90 (0.65)	2.91 (0.64)	2.87 (0.67)	2.89 (0.65)	2.89 (0.65)
	n=100	**n=98**	**n=102**	**n=153**	**n=147**	**n=300**	**n=300**
Developmental Delay	2.33 (0.77)	2.49 (0.78)	2.40 (0.73)	2.41 (0.75)	2.41 (0.77)	2.41 (0.76)	2.41 (0.76)

TABLE 3 (continued)

Item	White	African American	Hispanic	High SES	Low SES	Total by Ethnicity	Total by SES
Expressive Language D/O	**n=99** 2.30 (0.56)	**n=97** 2.46 (0.82)	**n=104** 2.35 (0.75)	**n=152** 2.36 (0.69)	**n=148** 2.39 (0.74)	**n=300** 2.37 (0.72)	**n=300** 2.37 (0.72)
Mild Mental Retardation	**n=98** 2.02 (0.57)	**n=98** 2.05 (0.60)	**n=102** 2.07 (0.57)	**n=152** 2.03 (0.60)	**n=146** 2.07 (0.56)	**n=298** 2.05 (0.58)	**n=298** 2.05 (0.58)
ADHD	**n=100** 1.77 (0.57)	**n=97** 1.69 (0.70)	**n=102** 1.68 (0.63)	**n=153** 1.71 (0.66)	**n=146** 1.72 (0.61)	**n=299** 1.71 (0.63)	**n=299** 1.71 (0.63)
Emotional Disturbance	**n=100** 1.68 (0.69)	**n=98** 1.54 (0.59)	**n=102** 1.55 (0.59)	**n=152** 1.61 (0.64)	**n=148** 1.57 (0.62)	**n=300** 1.59 (0.63)	**n=300** 1.59 (0.63)
Hearing Impairment	**n=98** 1.52 (0.54)	**n=98** 1.54 (0.52)	**n=101** 1.56 (0.52)	**n=151** 1.48 (0.50)	**n=146** 1.61 (0.54)	**n=297** 1.54 (0.53)	**n=297** 1.54 (0.53)
Cultural Deprivation	**n=98** 1.35 (0.58)	**n=96** 1.32 (0.49)	**n=102** 1.30 (0.54)	**n=152** 1.09 (0.29)	**n=144** 1.57 (0.62)	**n=296** 1.32 (0.54)	**n=296** 1.32 (0.54)
Child Abuse/Neglect	**n=96** 1.43 (0.52)	**n=96** 1.30 (0.48)	**n=102** 1.20 (0.42)	**n=151** 1.22 (0.41)	**n=143** 1.40 (0.53)	**n=294** 1.30 (0.48)	**n=294** 1.30 (0.48)

TABLE 3 (continued)

Item	White	African American	Hispanic	High SES	Low SES	Total by Ethnicity	Total by SES
Normal	**n=99**	**n=98**	**n=102**	**n=153**	**n=146**	**n=299**	**n=299**
Developing	1.05	1.04	1.07	1.06	1.05	1.05	1.05
Child	(0.22)	(0.20)	(0.25)	(0.24)	(0.21)	(0..23)	(0..23)

Notes. Likert Scale: 1 = Not at all/Next few days/Not likely, 2 = Mild/A little/Next few weeks/Maybe, 3 = Somewhat Serious/Somewhat Unusual/A month/Most likely, 4 = Serious/Unusual/By end of 6 weeks/Definitely; Immediate Intervention Warranted: 1 = Yes and 2 = No; SES = Socioeconomic Status.

Prior to conducting analysis, assumptions were tested for each research question. Based upon the Levene's test, assumptions were not met for homogeneity of variance for question B regarding the unusualness of the child's behavior and question D regarding if presenting problem was due to Expressive Language Disorder (question D1), Child Abuse/Neglect (question D2), Cultural Deprivation (question D4), and ADHD (question D6). Since the F-test is robust enough to withstand violations of the assumption of homogeneity of variance with equal sample sizes, violating this assumption was not of concern in the present study since sample sizes for each independent variable in the present study were nearly equal (Huck, 2000). Furthermore, the response rate and sample size was higher than needed and expected as discussed in the Methods Section so analysis in the present study were still interpreted. Analysis that obtained significance but violated the homogeneity of variance assumptions were tested using the Games-Howell post hoc test, which does not assume equal variance.

Research Question 1

Do school psychologists differ in their clinical decisions regarding severity of child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables? Responses to item A on the questionnaire were compared across ethnic groups, SES, and the interaction of these variables to see if mean scores differ on how serious the school psychologists perceive the behavior of the child. A 3 (ethnicity) x 2 (socioeconomic status) univariate analysis of variance (ANOVA) was performed for how serious school psychologists perceive the behavior of the child (see Tables 3 and 5). Table 4 showcases the actual responses provided by school psychologists on item A of questionnaire.

TABLE 4
Crosstabulation of Perceived Seriousness for Participants

seriousness of probem1			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
mild	SES of case	Upper Middle Class		2	1	3
		Economically Disadvantaged		1	0	1
	Total			3	1	4
somewhat serious	SES of case	Upper Middle Class	21	13	13	47
		Economically Disadvantaged	23	15	15	53
	Total		44	28	28	100
serious	SES of case	Upper Middle Class	31	34	41	106
		Economically Disadvantaged	29	34	33	96
	Total		60	68	74	202

TABLE 5
Results of ANOVA on Perceived Seriousness of Child's Problem

Source	Df	F	η^2	P
Ethnicity (E)	2	1.743	.011	.177
SES	1	.168	.001	.682
E X SES	2	.069	<.001	.933
Error	300	-	-	-
R Squared		-	.013	-

Notes. SES = socioeconomic status

There was no significant difference in school psychologists' perceptions of the seriousness of behaviors by ethnicity or SES of the child in the vignette; there was no interaction effect. The response of the school psychologists about how serious the child's behavior did not differ based on child ethnicity or SES or the combination of these factors.

Research Question 2

To address the second question, Do school psychologists differ in their clinical decisions regarding unusualness of child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables, responses to item B on the questionnaire was compared across ethnic groups, SES, and the interaction of these variables to see if mean scores differ on how unusual school psychologists perceive the behavior of the child. An 3 (ethnicity) x 2 (socioeconomic status) univariate analysis of variance (ANOVA) was performed for how unusual the school psychologists perceive the behavior of the child (see Tables 3 and 7). Table 6 showcases the actual responses provided by school psychologists on item B of questionnaire.

TABLE 6

Crosstabulation of Perceived Unusualness of Behavior

how unusual the behavior1			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
a little	SES of case	Upper Middle Class		2		2
	Total			2		2
somewhat unusual	SES of case	Upper Middle Class	13	5	9	27
		Economically Disadvantaged	6	9	14	29
	Total		19	14	23	56
unusual	SES of case	Upper Middle Class	39	40	46	125
		Economically Disadvantaged	46	41	34	121
	Total		85	81	80	246

TABLE 7

Results of ANOVA on Perceived Unusualness of Behavior

Source	Df	F	η^2	P
Ethnicity (E)	2	.375	.003	.687
SES	1	.016	<.001	.899
E X SES	2	2.596	.017	.076
Error	298	-	-	-
R Squared		-	.019	-

Notes. SES = socioeconomic status

Regardless of child's ethnicity or SES, no significant differences were found. There was no significant difference in school psychologists' perceptions of the unusualness of behaviors, nor were there any interaction effects.

Research Question 3

Do school psychologists differ in their clinical decisions regarding the immediacy of need to intervene to child's behavior as influenced by child's ethnicity, child's SES, or a combination of these variables?

Responses to item C on the questionnaire was compared across ethnic groups, SES, and the interaction of these variables to see if mean scores differ on school psychologists immediacy of need to respond to child's behavior. An 3 (ethnicity) x 2 (socioeconomic status) univariate analysis of variance (ANOVA) was performed for school psychologists who indicated an immediate intervention was warranted. The ANOVA was conducted on how soon the school psychologists perceived an intervention would be needed regarding the child's behavior (see Tables 3 and 10). Crosstabulation of responses is provided for part 1 and 2 of question C in Table 8 and 9.

TABLE 8
Crosstabulation of Perceived Immediacy of Attention Needed

immediate attention			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
Yes	SES of case	Upper Middle Class	49	48	53	150
		Economically Disadvantaged	49	49	44	142
	Total		98	97	97	292
No	SES of case	Economically Disadvantaged	1			1
	Total		1			1

TABLE 9

Crosstabulation of Perceived Timeframe of Intervention Needed for *B*ehavior

how soon would you act			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
Next few days	SES of case	Upper Middle Class	18	29	24	71
		Economically Disadvantaged	22	21	20	63
	Total		40	50	44	134
Next few weeks	SES of case	Upper Middle Class	23	14	19	56
		Economically Disadvantaged	20	21	19	60
	Total		43	35	38	116
A month	SES of case	Upper Middle Class	2	1	3	6
		Economically Disadvantaged	1	2	2	5
	Total		3	3	5	11
By the end of 6 Weeks	SES of case	Upper Middle Class	3	2	5	10
		Economically Disadvantaged	1	4	5	10
	Total		4	6	10	20

TABLE 10

Results of ANOVA on Perceived Timeframe of Intervention Needed for Behavior

Source	Df	F	η^2	P
Ethnicity (E)	2	1.164	.008	.314
SES	1	.157	.001	.692
E X SES	2	2.074	.015	.128
Error	275	-	-	-
R Squared		-	.023	-

Notes. SES = socioeconomic status

There was no significant difference in school psychologists' perceptions of the immediacy of intervention needed across ethnicity or SES. There were no interaction effects.

Research Question 4

Do school psychologists differ in their clinical decisions regarding the likelihood each category (Expressive Language Disorder; Child Abuse/Neglect; Mild Mental Retardation; Cultural Deprivation; Autistic Disorder; Attention-Deficit Hyperactivity Disorder; Developmental Delay; Emotional Disturbance; Hearing Impairment; and Normal Developing Child) explains child's behavior influenced by child's ethnicity, child's SES, or a combination of these variables?

Responses to item D on the questionnaire will be compared across ethnic groups, SES, and the interaction of these variables to see if mean scores differ on the perception of the likelihood each category in item D explains the behavior of the child. A 3 (ethnicity) x 2 (socioeconomic status) multivariate analysis of variance (MANOVA) will be performed on school psychologists' perception of the likelihood each category in item D explains the behavior of the child (see Tables 3 and the tables on pages 76-88). This will entail 10 different analyses for each of the possible explanations. Crosstabulation of responses is also provided for items 1 through 10 on question D in tables on pages 76-88.

TABLE 11

Crosstabulation of Perceived Problem due to Expressive Language Disorder

problem due to Expressive Language Disorder			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
Not likely	SES of case	Upper Middle Class	1	4	3	8
		Economically Disadvantaged	1	5	7	13
	Total		2	9	10	21
maybe	SES of case	Upper Middle Class	32	27	34	93
		Economically Disadvantaged	36	18	21	75
	Total		68	45	55	168
most likely	SES of case	Upper Middle Class	14	12	14	40
		Economically Disadvantaged	12	20	18	50
	Total		26	32	32	90
definitely	SES of case	Upper Middle Class	2	5	4	11
		Economically Disadvantaged	1	6	3	10
	Total		3	11	7	21

TABLE 12

Results of ANOVA on Perceived Problem due to Expressive Language Disorder

Source	Df	F	η^2	P
Ethnicity (E)	2	.736	.005	.480
SES	1	.033	<.001	.857
E X SES	2	.931	.007	.395
Error	274	-	-	-
R Squared		-	.012	-

Notes. SES = socioeconomic status

Regardless of child ethnicity or SES, no differences were found. There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Expressive Language Disorder for differing ethnic groups or socioeconomic status, nor was there an interaction effect. This is shown in Tables 11 and 12.

TABLE 13
Crosstabulation of Perceived Problem due to Child Abuse/Neglect

problem due to Child Abuse/Neglect			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
Not likely	SES of case	Upper Middle Class	33	37	48	118
		Economically Disadvantaged	23	31	35	89
	Total		56	68	83	207
maybe	SES of case	Upper Middle Class	14	12	7	33
		Economically Disadvantaged	25	15	11	51
	Total		39	27	18	84
most likely	SES of case	Economically Disadvantaged	1	1	1	3
	Total		1	1	1	3

TABLE 14
Results of ANOVA on Perceived Problem due to Child Abuse/Neglect

Source	Df	F	η^2	P
Ethnicity (E)	2	5.269	.037	.006*
SES	1	7.831	.028	.005*
E X SES	2	.423	.003	.656
Error	274	-	-	-
R Squared		-	.067	-

Notes. SES = socioeconomic status

Based on the analysis of variance, significance was found for the likelihood school psychologists' were to conclude the child's presenting problem was due to Child Abuse based upon the ethnicity ($p = .006$; alpha $< .05$; *partial eta*$^2 = .037$) and SES ($p = .0005$; alpha $< .05$; *partial eta*$^2 = .028$) of child in vignette. There were no interaction effects. Results indicated that school psychologists were least likely to indicate a child's problem was due to Child Abuse for a child from a high socioeconomic status and more likely for a child from a low socioeconomic status. Regardless of SES, school psychologists' were least likely to indicate a child's presenting problem was due to Child Abuse for a Hispanic child and more likely to indicate presenting problem was due to Child Abuse for a Caucasian child. This is shown in Tables 13 and 14.

TABLE 15
Crosstabulation of Perceived Problem due to Mild Mental Retardation

problem due to Mild Mental Retardation			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	8	7	7	22
		Economically Disadvantaged	6	6	5	17
	Total		14	13	12	39
maybe	SES of case	Upper Middle Class	34	37	36	107
		Economically Disadvantaged	35	32	36	103
	Total		69	69	72	210
most likely	SES of case	Upper Middle Class	6	4	10	20
		Economically Disadvantaged	8	10	7	25
	Total		14	14	17	45
definitely	SES of case	Upper Middle Class	1	1	1	3
		Economically Disadvantaged	0	1	0	1
	Total		1	2	1	4

TABLE 16
Results of ANOVA on Perceived Problem due to Mild Mental Retardation

Source	Df	F	η^2	P
Ethnicity (E)	2	.195	.001	.823
SES	1	.218	.001	.641
E X SES	2	.636	.005	.530
Error	274	-	-	-
R Squared		-	.007	-

Notes. SES = socioeconomic status

No significant difference was found regardless of child's ethnicity or SES, in school psychologists' perceptions of child's behavior being due to Mild Mental Retardation. There were no interaction effects. This is shown in Tables 15 and 16.

TABLE 17

Crosstabulation of Perceived Problem due to Cultural Deprivation

Problem due to Cultural Deprivation			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	45	43	50	138
		Economically Disadvantaged	23	23	24	70
	Total		68	66	74	208
maybe	SES of case	Upper Middle Class	3	6	5	14
		Economically Disadvantaged	24	23	21	68
	Total		27	29	26	82
most likely	SES of case	Economically Disadvantaged	2	1	1	4
	Total		2	1	1	4
definitely	SES of case	Economically Disadvantaged	1		1	2
	Total		1		1	2

TABLE 18

Results of ANOVA on Perceived Problem due to Cultural Deprivation

Source	Df	F	η^2	P
Ethnicity (E)	2	.067	<.001	.935
SES	1	64.712	.191	<.001*
E X SES	2	.702	.005	.496
Error	274	-	-	-
R Squared		-	.195	-

Notes. SES = socioeconomic status

Based on the analysis of variance, significance was found for the likelihood school psychologists' were to conclude the child's presenting problem was due to Cultural Deprivation

based upon the SES (p = .000; alpha < .05; *partial eta*^{2} = .191) of child in vignette. There were no interaction effects and the ethnicity of the child in vignette did not have any significance. Results indicated that school psychologists were least likely to indicate a child's problem was due to Cultural Deprivation for a child from a high socioeconomic status and more likely for a child from a low socioeconomic status regardless of ethnicity of child. This is shown in Tables 17 and 18.

TABLE 19
Crosstabulation of Perceived Problem due to Autistic Disorder

problem due to Autistic Disorder			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	1	0	0	1
		Economically Disadvantaged	0	1	1	2
	Total		1	1	1	3
maybe	SES of case	Upper Middle Class	11	12	13	36
		Economically Disadvantaged	15	13	11	39
	Total		26	25	24	75
most likely	SES of case	Upper Middle Class	31	32	32	95
		Economically Disadvantaged	30	25	31	86
	Total		61	57	63	181
definitely	SES of case	Upper Middle Class	9	5	10	24
		Economically Disadvantaged	6	11	6	23
	Total		15	16	16	47

TABLE 20
Results of ANOVA on Perceived Problem due to Autistic Disorder

Source	Df	F	η^2	P
Ethnicity (E)	2	.006	<.001	.994
SES	1	.342	.001	.559
E X SES	2	.667	.005	.514
Error	274	-	-	-
R Squared		-	.006	-

Notes. SES = socioeconomic status

There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Autistic Disorder by ethnicity or SES of the child in the vignette. There were no interaction effects. This is shown in Tables 19 and 20.

TABLE 21

Crosstabulation of Perceived Problem due to ADHD

problem due to ADHD			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	17	18	24	59
		Economically Disadvantaged	12	23	17	52
	Total		29	41	41	111
maybe	SES of case	Upper Middle Class	28	25	30	83
		Economically Disadvantaged	38	22	24	84
	Total		66	47	54	167
most likely	SES of case	Upper Middle Class	4	3	1	8
		Economically Disadvantaged	0	4	5	9
	Total		4	7	6	17
definitely	SES of case	Upper Middle Class	1	2	0	3
		Economically Disadvantaged	0	0	1	1
	Total		1	2	1	4

TABLE 22

Results of ANOVA on Perceived Problem due to ADHD

Source	Df	F	η^2	P
Ethnicity (E)	2	.927	.007	.397
SES	1	.003	<.001	.954
E X SES	2	2.430	.017	.090
Error	274	-	-	-
R Squared		-	.024	-

Notes. SES = socioeconomic status

Regardless of child ethnicity or SES, no differences were found. There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Attention Deficit Hyperactivity Disorder (ADHD) for differing ethnic groups or socioeconomic status, nor was there an interaction effect. This is shown in Tables 21 and 22.

TABLE 23
Crosstabulation of Perceived Problem due to Developmental Delay

problem due to Developmental Delay			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	4	3	3	10
		Economically Disadvantaged	6	3	3	12
	Total		10	6	6	22
maybe	SES of case	Upper Middle Class	28	24	33	85
		Economically Disadvantaged	27	25	25	77
	Total		55	49	58	162
most likely	SES of case	Upper Middle Class	15	16	13	44
		Economically Disadvantaged	12	16	16	44
	Total		27	32	29	88
definitely	SES of case	Upper Middle Class	3	6	5	14
		Economically Disadvantaged	5	5	4	14
	Total		8	11	9	28

TABLE 24

Results of ANOVA on Perceived Problem due to Developmental Delay

Source	Df	F	η^2	P
Ethnicity (E)	2	1.091	.008	.337
SES	1	.014	<.001	.906
E X SES	2	.135	.001	.874
Error	274	-	-	-
R Squared		-	.009	-

Notes. SES = socioeconomic status

There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Developmental Delay by ethnicity or SES of the child in the vignette. There were no interaction effects. This is shown in Tables 23 and 24.

TABLE 25

Crosstabulation of Perceived Problem due to Emotional Disturbance

problem due to Emotional Disturbance			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	26	23	22	71
		Economically Disadvantaged	17	27	29	73
	Total		43	50	51	144
maybe	SES of case	Upper Middle Class	19	24	29	72
		Economically Disadvantaged	29	19	17	65
	Total		48	43	46	137
most likely	SES of case	Upper Middle Class	2	2	3	7
		Economically Disadvantaged	5	3	2	10
	Total		7	5	5	17
definitely	SES of case	Upper Middle Class	2			2
	Total		2			2

TABLE 26

Results of ANOVA on Perceived Problem due to Emotional Disturbance

Source	Df	F	η^2	P
Ethnicity (E)	2	1.738	.013	.178
SES	1	.495	.002	.482
E X SES	2	1.488	.011	.228
Error	274	-	-	-
R Squared		-	.024	-

Notes. SES = socioeconomic status

Regardless of child ethnicity or SES, no differences were found. There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Emotional Disturbance for differing ethnic groups or socioeconomic status, nor was there an interaction effect. This is shown in Tables 25 and 26.

TABLE 27
Crosstabulation of Perceived Problem due to Hearing Impairment

problem due to Hearing Impairment			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	31	25	23	79
		Economically Disadvantaged	18	21	22	61
	Total		49	46	45	140
maybe	SES of case	Upper Middle Class	17	24	31	72
		Economically Disadvantaged	30	27	24	81
	Total		47	51	55	153
most likely	SES of case	Economically Disadvantaged	2	1	1	4
	Total		2	1	1	4

TABLE 28
Results of ANOVA on Perceived Problem due to Hearing Impairment

Source	Df	F	η^2	P
Ethnicity (E)	2	.181	.001	.835
SES	1	3.272	.012	.072
E X SES	2	2.375	.017	.095
Error	274	-	-	-
R Squared		-	.029	-

Notes. SES = socioeconomic status

There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to Hearing Impairment by ethnicity or SES of the child in the vignette. There were no interaction effects. This is shown in Tables 27 and 28.

TABLE 29

Crosstabulation of Perceived Problem due to Normal Developing Child

problem due to Normal Developing Child			Ethnicity of case			Total
			Caucasian	African American	Hispanic	
not likely	SES of case	Upper Middle Class	46	47	51	144
		Economically Disadvantaged	48	47	44	139
	Total		94	94	95	283
maybe	SES of case	Upper Middle Class	3	2	4	9
		Economically Disadvantaged	2	2	3	7
	Total		5	4	7	16

TABLE 30

Results of ANOVA on Perceived Problem due to Normal Developing Child

Source	Df	F	η^2	P
Ethnicity (E)	2	.180	.001	.835
SES	1	.031	<.001	.860
E X SES	2	.119	.001	.888
Error	274	-	-	-
R Squared		-	.002	-

Notes. SES = socioeconomic status

Regardless of child ethnicity or SES, no differences were found. There was no significant difference in school psychologists' likelihood to conclude the child's presenting problem was due to being a Normal Developing Child for differing ethnic groups or socioeconomic status, nor was there an interaction effect. This is shown in Tables 29 and 30.

Research Question 5

Does ethnicity of school psychologists influence their clinical decisions regarding child's behavior on above questions 1- 5 based on child's ethnicity, child's SES, or a combination of these variables?

Initially, responses to item A-E on the survey were going to be compared across ethnicity of school psychologists (item 2 on demographic questionnaire) to see if mean scores differ on the clinical decisions of school psychologists as it relates to their ethnicity, child's ethnicity, child's SES, or a combination of these variables. A 3 (child's ethnicity) x 2 (SES) x 4 (ethnicity of professional: African American, Caucasian, Asian, and Hispanic) multivariate analysis of variance (MANOVA) was to be performed on the clinical decisions of school psychologists in item A-E on the survey as it relates to child's ethnicity, child's SES, and ethnicity of professional (item 2 on demographic questionnaire).

Due to the very limited number of school psychologist's classified as Asian, African American, Hispanic, Native American, and Biracial in the present study, the analysis in Research Question 6 could not be conducted. However, Table 31 provides a summary of the sample size, mean, and standard deviation from those items with a Likert scale by school psychologists' ethnicity. Items under the "Problem Due to" category are ranked in order by mean for total.

TABLE 31

Results of Questions by Ethnicity of School Psychologists [Mean Score (SD) on Likert Scale]

Item	White	African American	Hispanic	Asian	Biracial or other	Total by Ethnicity
	n=288	**n=5**	**n=6**	**n=3**	**n=4**	**n=306**
Perceived Seriousness	3.65 (0.50)	3.60 (0.55)	3.83 (0.41)	3.67 (0.58)	3.50 (1.00)	3.65 (0.51)
	n=286	**n=5**	**n=6**	**n=3**	**n=4**	**n=304**
Unusualness of Behavior	3.81 (0.40)	3.60 (0.55)	3.83 (0.41)	3.67 (0.58)	3.50 (1.00)	3.80 (0.41)
Immediate Intervention Warranted	**n=276** 1.00 (0.06)	**n=5** 1.00 (<0.01)	**n=6** 1.00 (<0.01)	**n=3** 1.00 (<0.01)	**n=3** 1.00 (<0.01)	**n=293** 1.003 (0.06)
How Soon to Intervene	**n=265** 1.71 (0.85)	**n=5** 1.20 (0.45)	**n=5** 1.60 (0.55)	**n=3** 1.67 (1.15)	**n=3** 2.00 (1.00)	**n=281** 1.70 (0.85)
Problem Due to:						
	n=288	**n=6**	**n=6**	**n=3**	**n=3**	**n=306**
Autistic Disorder	2.90 (0.65)	3.00 (0.89)	2.67 (1.03)	2.67 (0.58)	3.00 (<0.01)	2.89 (0.66)
	n=282	**n=6**	**n=6**	**n=3**	**n=3**	**n=300**
Developmental Delay	2.42 (0.77)	2.33 (0.52)	2.00 (0.63)	2.33 (0.58)	2.33 (0.58)	2.41 (0.76)

TABLE 31 (continued)

Item	White	African American	Hispanic	Asian	Biracial or other	Total by Ethnicity
Expressive Language D/O	**n=282** 2.37 (0.72)	**n=6** 2.50 (0.55)	**n=6** 2.33 (0.82)	**n=3** 2.67 (0.58)	**n=3** 2.00 (<0.01)	**n=300** 2.37 (0.72)
Mild Mental Retardation	**n=280** 2.05 (0.58)	**n=6** 1.83 (0.41)	**n=6** 2.00 (0.63)	**n=3** 2.00 (<0.01)	**n=3** 2.33 (0.58)	**n=298** 2.05 (0.58)
ADHD	**n=281** 1.72 (0.63)	**n=6** 1.33 (0.52)	**n=6** 1.50 (0.55)	**n=3** 2.33 (0.58)	**n=3** 1.33 (0.58)	**n=299** 1.71 (0.63)
Emotional Disturbance	**n=282** 1.60 (0.63)	**n=6** 1.33 (0.52)	**n=6** 1.17 (0.41)	**n=3** 1.33 (0.58)	**n=3** 2.33 (0.58)	**n=300** 1.59 (0.63)
Hearing Impairment	**n=279** 1.54 (0.52)	**n=6** 1.67 (0.52)	**n=6** 1.00 (<0.01)	**n=3** 1.33 (0.58)	**n=3** 2.33 (0.58)	**n=297** 1.54 (0.53)
Cultural Deprivation	**n=278** 1.32 (0.54)	**n=6** 1.33 (0.52)	**n=6** 1.33 (0.52)	**n=3** 1.67 (0.58)	**n=3** 1.00 (<0.01)	**n=296** 1.32 (0.54)
Child Abuse/Neglect	**n=276** 1.31 (0.49)	**n=6** 1.17 (0.41)	**n=6** 1.17 (0.41)	**n=3** 1.33 (0.58)	**n=3** 1.33 (0.58)	**n=294** 1.31 (0.48)

TABLE 31 (continued)

Item	White	African American	Hispanic	Asian	Biracial or other	Total by Ethnicity
Normal Developing Child	**n=281** 1.06 (0.23)	**n=6** 1.00 (<0.01)	**n=6** 1.00 (<0.01)	**n=3** 1.00 (<0.01)	**n=3** 1.00 (<0.01)	**n=299** 1.05 (0.23)

Notes. Likert Scale: 1 = Not at all/Next few days/Not likely, 2 = Mild/A little/Next few weeks/Maybe, 3 = Somewhat Serious/Somewhat Unusual/A month/Most likely, 4 = Serious/Unusual/By end of 6 weeks/Definitely; Immediate Intervention Warranted: 1 = Yes and 2 = No; SES = Socioeconomic Status.

Research Question 6

Which of the child's symptoms do school psychologists consider most critical to their clinical decisions?

Responses in item E were coded into categories to provide insight into what factors are instrumental in helping school psychologists make decisions regarding children with behavior consistent with a diagnosis of autism. Appendix K provides a detailed account of specific symptoms from the vignette viewed as most critical by school psychologists. Table 32 provides an overview of the information provided by school psychologists. Ability to analyze the information was limited. Section on Limitations of Study in Chapter V provides more details.

TABLE 32
Frequency of Child's Symptoms in Vignette Viewed as Most Critical

Item		Frequency	Grand Total
Adaptive Skills			
	White High SES	17	
	White Low SES	18	
	Black High SES	17	
	Black Low SES	23	
	Hispanic High SES	30	
	Hispanic Low SES	17	
			122
Atypical Behavior	White High SES	29	
	White Low SES	24	
	Black High SES	31	
	Black Low SES	15	
	Hispanic High SES	39	
	Hispanic Low SES	22	
			160
Cognition			
	White High SES	15	
	White Low SES	11	
	Black High SES	15	
	Black Low SES	17	
	Hispanic High SES	27	
	Hispanic Low SES	15	
			100

TABLE 32 (continued)

Item		**Frequency**	**Grand Total**
Eye Contact			
	White High SES	18	
	White Low SES	11	
	Black High SES	19	
	Black Low SES	13	
	Hispanic High SES	23	
	Hispanic Low SES	13	
			97
Family Factors			
	White High SES	10	
	White Low SES	16	
	Black High SES	6	
	Black Low SES	10	
	Hispanic High SES	9	
	Hispanic Low SES	12	
			63
Language/Communication			
	White High SES	61	
	White Low SES	34	
	Black High SES	77	
	Black Low SES	52	
	Hispanic High SES	79	
	Hispanic Low SES	72	
			375

TABLE 32 (continued)

Item		Frequency	Grand Total
Other Factors			
	White High SES	14	
	White Low SES	10	
	Black High SES	18	
	Black Low SES	8	
	Hispanic High SES	21	
	Hispanic Low SES	8	
			79
Restricted Interest/Sensory Processing			
	White High SES	51	
	White Low SES	33	
	Black High SES	60	
	Black Low SES	40	
	Hispanic High SES	60	
	Hispanic Low SES	50	
			294
Social-Emotional Connectedness			
	White High SES	8	
	White Low SES	13	
	Black High SES	24	
	Black Low SES	17	
	Hispanic High SES	6	
	Hispanic Low SES	23	
			91

TABLE 32 (continued)

Item		**Frequency**	**Grand Total**
Social Participation/Interaction			
	White High SES	50	
	White Low SES	43	
	Black High SES	79	
	Black Low SES	57	
	Hispanic High SES	86	
	Hispanic Low SES	60	
			375
TOTALS By Category	Adaptive Skills	122	
	Atypical Behavior	160	
	Cognition	100	
	Eye Contact	97	
	Family Factors	63	
	Language/Communication	375	
	Other Factors	79	
	Restricted Interest/Sensory Processing	294	
	Social-Emotional Connectedness	91	
	Social Participation/Interaction	375	
			1756

Summary of Results

Based on the responses by the school psychologists in this sample, no differences were found in how school psychologists interpreted the seriousness of the problem, the unusualness, or immediacy of intervention needed based on ethnicity or SES of a child exhibiting symptoms of Autism. Regardless of ethnicity or SES of child, school psychologists also did not differ in their clinical decisions regarding the likelihood the child's presenting problems was due to Expressive Language Disorder, Mild Mental Retardation, Autistic Disorder, ADHD, Developmental Delay, Emotional Disturbance, Hearing Impairment, or a Normal Developing Child.

In contrast, child's ethnicity and SES was found to be a factor regarding the likelihood school psychologists perceived the child's presenting problem was due to Child Abuse. For instance, regardless of ethnicity, school psychologists were more likely to indicate the child's problem was due to Child Abuse for a child from a low SES versus a high SES. Furthermore, despite SES of child, school psychologists were more likely to indicate the child's presenting problem was due to Child Abuse for the Caucasian child and not likely for the Hispanic child. Likewise, the child's socioeconomic status influenced school psychologists to more likely indicate the child's presenting problems was due to Cultural Deprivation for the child from the low SES and least likely for the child from the high SES. SES by ethnicity interactions were not evident during any of the analysis.

Due to the small sample size of school psychologists classified as Asian, African American, Hispanic, Native American, and Biracial in the study, analysis looking at ethnic differences between these groups and school psychologists classified as Caucasian could not be conducted.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to investigate factors that may influence the diagnostic decisions of school psychologists as they relate to identifying behavioral symptoms associated with autism in African American, Caucasian, and Hispanic boys of varying levels of socioeconomic status. Previous research has shown that autism is not diagnosed at the same rate among various ethnic groups or levels of socioeconomic status (Mandel et al., 2002). Unlike other biological disorders with laboratory test to detect their existence, the diagnosis of autism is based upon subjective measures such as parent interviews, observations, rating scales, and clinical judgment (American Academy of Pediatrics, 2001). Due to the high level of subjectivity required in making a diagnosis of autism, factors that negatively impede the rate of identification of autism among clinicians need to be examined. In addition, findings for the study are important because understanding factors that influence the early identification of autism is essential since substantial benefits are obtained with early detection and early intervention (Glascoe, 1999).

In the present study, 504 professionals in school psychology were randomly selected from a nationwide sample of current members of the National Association of School Psychologists (NASP). Of that 504, 308 school psychologists returned completed survey packets. Survey packets mailed to participants consisted of a cover letter (see Appendix H), personal data demographics sheet (see Appendix B), vignette with an illustration of child discussed in vignette (see Appendix C and F), questionnaire with five questions (see Appendix G), and postage paid envelope. The current study sought to answer research questions regarding school psychologists perceptions of the seriousness of the child's problem, the unusualness of the child's behavior, if the child's behavior warranted immediate intervention, and how likely

the clinician was the conclude the child's presenting problems were due to a list of ten different disabilities or categories.

Perceptions of School Psychologists

The results are promising in that school psychologists appear able to accurately identify symptoms associated with autism regardless of ethnicity or socioeconomic status. School psychologists are also able to recognize when patterns of behavior diverge from normal development. According to Trillingsgaard, Sorensen, Nemec, and Jorgensen (2005) clinicians showcase little difficulty with distinguishing autism from children with typical development, it is when they must distinguish these children from children with other developmental disorders that impede language and social interaction that difficulty exist. Likewise, Trillingsgaard and colleagues (2005) found that in clinical settings, children with autism can typically be distinguished from other children with developmental disabilities around the age of 24 months.

In the present study, it was hypothesized that school psychologists would showcase differences in how they perceived the seriousness of the child's problem, the unusualness, or immediacy of intervention needed based on SES of a child exhibiting symptoms consistent with a diagnosis of Autism. The results indicated no significant differences no matter the child's SES or ethnicity. Regardless of ethnicity or SES of child, school psychologists also did not differ in their clinical decisions regarding the likelihood the child's presenting problems was due to Expressive Language Disorder, Mild Mental Retardation, Autistic Disorder, ADHD, Developmental Delay, Emotional Disturbance, Hearing Impairment, or a Normal Developing Child. These results were consistent with the original hypotheses.

Interestingly, regardless of ethnicity or SES of case, school psychologists tended to endorse Expressive Language Disorder, Mild Mental Retardation, and Developmental Delay higher than they endorsed the other disabilities with the exception of Autism as being a possible

reason for the child's behavior. Given the similarity in behavioral display between autism and these other disabilities, it is no surprise that school psychologists indicated that the child's problems may be due to these disabilities. As discussed previously, clinicians often show difficulty with distinguishing children with autism from children with other developmental disorders that impede language and social interaction (Trillingsgaard et al., 2005). In addition, given that autism was the most identified choice that psychologists contributed the child's symptoms being due to, this showcases the face validity of the vignettes used in present study.

Child ethnicity and SES were found to be a factor regarding the likelihood school psychologists perceived the child's presenting problem was due to Child Abuse. For instance, regardless of ethnicity, school psychologists' were more likely to indicate the child's problem was due to Child Abuse for a child from a low SES versus a high SES. Although this was not hypothesized, the results are not surprising and showcase that school psychologists are influenced by other factors not solely related to behavioral symptoms. Given that ethnicity had no interaction effect with SES, these results may indicate that school psychologists may weigh socioeconomic levels higher than ethnicity when utilizing clinical reasoning to make judgments about child diagnosis and identification.

Not expected and not consistent with the literature on autism is school psychologists' endorsement of the child's presenting problem consistent with a diagnosis of autism being more likely due to Child Abuse for the Caucasian child and not likely for the Hispanic child. This would be interesting to explore in future studies to determine what features in the vignette influenced school psychologists to make this decision. Based upon the cultural and linguistic differences sometimes observed between Hispanics and the dominant culture, it would have been expected that those differences would have been misinterpreted by the clinicians and seen as a factor supporting a reason to suspect child abuse or cultural deprivation for the children of

Hispanic ethnicity. However the results obtained are consistent with the research on child abuse by ethnicity. Current research in child abuse indicates that almost half of the victims of child abuse are Caucasian (48.85%), 22.8 % are African American, and 18.4% are Hispanic. (United States Department of Health and Human Services, 2008).

Consistent with study expectation and the results obtained from the Cuccaro et al. study (1996), school psychologists in the present study were more likely to indicate the child's presenting problems was due to Cultural Deprivation for the child from the low SES and lease likely for the child from the high SES. As stated in the previous section, this supports that notion that other factors outside of behavior, such as SES, does influence the perceptions of school psychologists. It appears that SES can influence the school psychologists to focus on different elements in a case that they otherwise would not focus on when SES is not reported.

Based upon the information obtained from Question E, school psychologists did not differ as expected on the information they focused on in the case. In fact, they were fairly consistent between the behaviors chosen as being critical to their decisions regardless of case SES, ethnicity, or presenting problem endorsed on questions D1- D10. School psychologists tended to focus more on the child's language/communication, social participation/interaction, restricted interest/sensory processing, and atypical behaviors. These are symptoms that are consistent with a diagnosis of Autism. A limited number of school psychologists did indicate SES, parent education level, family history, and parent concerns as additional factors deemed critical to their decision. However, this was typically not the norm amongst responders between and within the various vignettes. In other words, school psychologists tended to focus on the same behavioral characteristics no matter what disorder they diagnosed as being most critical to their decisions or what the ethnicity or SES of case.

Limitations of Study

Demographic information provided by the National Association of School Psychologists was limited, and therefore did not allow generalizations to be made regarding the general population of school psychologists in NASP based upon the sample. In addition, the demographic sheet completed by respondents, did not take into account that school psychologists may work in different types of settings with different types of populations within the same district. Questions 7, 8, and 9 on the demographic data sheet forced school psychologists to choose the predominant ethnic group, SES, and area they worked and did not take into account those who may work in districts with equal time spent between the varying groups. Some school psychologists chose to indicate this on their forms, but others in similar situations may have elected not to and chose one group over the other. As a result, the demographics tables may only provide a partial view into the type of population school psychologists in the sample actually serve. Furthermore, questions 6, 7, 8 and 9 did not take into account that some school psychologists work exclusively as professors or consultants and do not work in a school setting with the specific population listed. This may have been a reason that some school psychologists sampled did not complete and return the survey.

The small sample size of school psychologists from different ethnic groups besides school psychologists of Caucasian ethnicity made it difficult to do comparisons between the various ethnic groups comparing survey responses. The ethnicity of the sample of 504 obtained from NASP was not provided by NASP so it is not certain if the sample had enough representation from the various ethnic groups at sampling.

When question E was written on the survey, the researcher was interested in catching a glimpse into the decision making process of school psychologists by obtaining critical symptoms from the vignette that was the deciding factor for why participants completed the survey as they

did. The hope was to obtain information into what deciding factors led the school psychologists to endorse one presenting problem as having higher weight than another presenting problem. Based upon the wording of Question E on survey, information desired was not obtained. Question E on the Questionnaire was written too broadly and did not produce the information desired. To further illustrate, based upon the information reported as being critical to their decisions on Question E, school psychologists often used the same symptoms such as language impairment, low non-verbal IQ, limited social interaction, limited adaptive skills, preoccupation with objects, lack of eye contact, and atypical behavior of screaming and running through house as being factors to support their decisions to indicate Autism, Expressive Language Disorder, Mild Mental Retardation, and Developmental Delay. For that reason, if a person endorsed all of the above categories as most likely or one as definitely and the others as most likely, no insight was provided into what caused the school psychologists to weigh the one category higher than the others. Requesting that each participant rank their choices in importance or indicate for each disorder what features of the case was important in making that particular decision may have been more effective in obtaining the information of interest.

In addition, since there was no limit in the number of symptoms each respondent could list on Question E, the tallying of each symptom listed by vignette (Caucasian low SES, Caucasian high SES, African American low SES, African American high SES, Hispanic low SES, and Hispanic high SES) in Question E was ineffective and had to be revised because each tally mark did not represent one person but represented one idea. Therefore, those who had one type of vignette could have listed 20 things as being critical as a total group and yet another set of respondents with another type of vignette could have listed 20 things each individually. The difference in numbers could have been misinterpreted by others to indicate those with a certain

type of vignette paid more attention to certain details than the next group. This would not have been an accurate conclusion.

Lastly, the current study utilized vignettes, and seeing a child in a real life situation as a clinician provides a different experience than analyzing information from a written vignette in the comfort of your home. So the results obtained from this study may not be an accurate depiction of what happens in everyday situations when school psychologists are identifying children with autism from different ethnic groups and levels of socioeconomic status.

Implications for Practice

The results of this study are encouraging because it shows that awareness levels of autism are increasing and that school psychologists are able to more readily identify symptoms consistent with a diagnosis of autism. On the other hand, the results show that school psychologists' decisions on identification may also be influenced by a child's ethnicity or socioeconomic level. These factors may impede the rate at which a child is identified and begins treatment for autism. To combat the disparities in identification and treatment of autism among ethnicity groups and levels of socioeconomic status, clinicians need to understand how their clinical judgments could be influenced with bias and make an extra effort to become more culturally competent through didactics or other trainings offered locally or at the national level. In addition, school psychologists could benefit from consulting with other professionals in the field when interacting with a child from a different ethnicity or SES than they are typically accustom to providing services.

Direction of Future Research

Future studies should utilize video vignettes that include a child with autism and one with another developmental disability to examine how well school psychologists are able to depict symptoms of autism from other disabilities with similar behavior, emotional, and/or social

deficits. In addition, future research should include a component to study what impact a child's ethnicity or SES has on how school psychologists perceive the child's disability to be autism or another developmental disability when utilizing video vignettes. Since children are often referred first to a medical physician for problems with development, future studies should focus on the effects of SES and ethnicity on the perceptions of physicians or other medical personnel often utilized in diagnosing autism.

The role that parents play during the identification process for autism should also be studied. The relationship between clinicians and parents is vital since clinicians often have to rely on information obtained from parents during the diagnostic process. The clinicians' role is to illicit information from the parents; therefore the parent's perception of the clinician may serve as a barrier and interfere with the type of information that is effectively elicited from parents. So the factors that influence parents' perceptions of the clinician are important and should be explored further in future research.

Lastly, due to limited research in the field, future research should be conducted to determine if cultural differences exist in the behavior presentation of autism among racial/ethnic groups. This will help to determine if a cultural component needs to be added to early intervention programs as suggested by Dyches and colleagues (2004).

REFERENCES

Aarons, M., & Gittens, T. (1999). *The handbook of autism: A guide for parents and professionals* (2nd ed.). New York: Routledge.

American Academy of Pediatrics. (2001). The pediatrician's role in the diagnosis and management of autistic spectrum disorder in children (RE060018). *Pediatrics 107*(5), 1221-1226.

American Association on Mental Retardation. (1992). *Mental retardation: Definition, classification, and systems of supports*. Washington, DC: Author.

American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders – Text Revision* (4th ed.). Washington, DC: Author.

Bailey, A., Phillips, W., & Rutter, M. (1996). Autism: towards an integration of clinical, genetic, neuropsychological, and neurobiological perspectives. *Journal of Child Psychology and Psychiatry 37*, 89-126.

Baird, G., Cass, H, & Slonims, V. (2003). Diagnosis of autism. *British Medical Journal, 327*, 488-493.

Baron-Cohen, S. (1989). The autistic child's theory of mind: A case of specific developmental delay. *Journal of Child Psychology and Psychiatry, 30*, 285-297.

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition, 21*, 37-46.

Bleuler, E. (1950). *Dementia praecox or a group within the schizophrenias*. New York: International Universities Press. (Original work published in 1911).

Brinkerhoff, D. B., White, L. K., & Ortega, S. T. (1992). *Essentials of sociology* (2nd ed.). St. Paul, MN: West Publishing Company.

Brown, J. R., & Rogers, S. J. (2003). Cultural issues in autism. In S. Ozonoff, S. Rogers, & R. Hendren (Eds.), *Autism spectrum disorders: A research review for practioners* (pp. 209-226). Washington, DC: American Psychiatric Publishing.

Carter, A. S., Davis, N. O., Klin, A., & Volkmar, F. R. (2005). Social development in autism. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 312-334). Hoboken, New Jersey: Wiley.

Connors, J. L. (1992). Navajo perceptions of autism and social competence: A cultural perspective. *Dissertation Abstracts International, 53* (7), 2431. (UMI No. 9223873).

Coonrod, E. E., & Stone, W. L. (2004). Early concerns of parents of children with autistic and nonautistic disorders. *Infants and Young Children, 17*, 258-268.

Cooper-Patrick, L., Gallo, J. J., Gonzales, J. J., Vu, H. T., Powe, N. R., Nelson, C., & Ford, D. E. (1999). Race, gender, and partnership in the patient-physician relationship. *Journal of American Medical Association, 282*, 583-589.

Cuccaro, M. L., Wright, H. H., Rownd, C. V., & Abramson, R. K. (1996). Brief report: Professional perceptions of children with developmental difficulties: The influence of race and socioeconomic status. *Journal of Autism and Developmental Disorders, 26*, 461-469.

Daley, T. C. (2004). From symptom recognition to diagnosis: Children with autism in urban India. *Social Science & Medicine, 58*, 1323-1335.

Dawson, G., & Osterling, J. (1997). Early intervention in autism. In M. J. Guralnick (Ed.), *The effectiveness of early intervention* (pp. 307-326). Kansas City: Paul H. Brooks.

Dillman, D. A. (2000). *Mail and internet surveys: The Tailored design method*. New York: Wiley.

Dumont-Mathieu, T., & Fein, D. (2005). Screening for autism in young children: The modified checklist for autism in toddlers (m-chat) and other measures. *Mental Retardation and Developmental Disabilities, 11*, 253-262.

Dyches, T. T., Hobbs, K., Wilder, L. K., Sudweeks, R. R., Obiakor, F. E., & Algozzine, B. (2005). Multicultural representation in autism. *Linking Research and Practice in Special Education: An International Perspective*, *1*, 1-15.

Dyches, T. T., Wilder, L. K., Obiakor, F. E. (2001). Autism: multicultural perspectives. In T. Wahlberg, F. E. Obiakor, S. Burkhardt, & A. F. Rotatori (Eds.), *Autistic spectrum disorders: vol. 14. Educational and clinical interventions* (pp. 151-180). Oxford, England: Elsevier Science.

Dyches, T. T., Wilder, L. K., Sudweeks, R. R., Obiakor, F. E., & Algozzine, B. (2004). Multicultural issues in autism. *Journal of Autism and Developmental Disorders, 34*, 211-222.

Eisenmajer, R., Prior, M., Leekman, S., Wing, L., Gould, J., Welham, M., & Ong, B. (1996). Comparison of clinical symptoms in autism and asperger's disorder. *Journal of American Academy of Child and Adolescent Psychiatry, 35*, 1523-1531.

Farber, J. M. (1996). Autism and other communication disorders. In A. J. Capute, & P. J. Accardo (Eds.), *Developmental disabilities in infancy and childhood* (2nd ed., pp. 347-364). Baltimore, MD: Paul H. Brookes.

Flores, G., Bauchner, H., Feinstein, A., & Nguyen, U. D. T. (1999). The impact of ethnicity, family income, and parental education on children's health and use of health services. *American Journal of Public Health, 89*, 1066-1071.

Fombonne, E. (2005). The changing epidemiology of autism. *Journal of Applied Research in Intellectual Disabilities, 18*, 281-294.

Fournier, C. J., Rollins, D., Thomas-Tasby, C., Riccio, C. A., & Dixon, S. R. (2004, April). *Teacher perceptions of children needing referral: Ethnicity and SES influences*. Poster session presented at the annual meeting of the National Association of School Psychologist, Dallas, TX.

Frith, U., & Happe, F. (1994). Autism: Beyond "theory of mind". *Cognition, 50*, 115-132.

Glascoe, F. P. (1999). The value of parents' concerns to detect and address developmental and behavioural problems. *Journal of Paediatric Child Health, 35*, 1-8.

Glascoe, F. (2000). Evidence-based approach to developmental and behavioral surveillance using parents' concerns. *Child Care Health Development, 26*, 137-149.

Glascoe, F. G. (2003). Parents' evaluation of developmental status: How well do parents' concerns identify children with behavioral and emotional problems? *Clinical Pediatrics, 42*, 133-138.

Glascoe, F. P., & Dworkin, P. H. (1993). Obstacles to effective developmental surveillance: Errors in clinical reasoning. *Developmental and Behavioral Pediatrics, 14*, 344-349.

Gottlieb, J., Gottlieb, B. W., Trongone, S. (1991). Parent and teacher referrals for a psychoeducational evaluation. *Journal of Special Education, 25*, 155-167.

Greenspan, S. I. & Wieder, S. (1997). Developmental patterns and outcomes in infants and children with disorders in relating and communicating: A chart review of 200 cases of children with autistic spectrum diagnoses. *Journal of Developmental and Learning Disorders, 1*, 87-141.

Happe, F. (2005). The weak central coherence account of autism. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 640-649). Hoboken, New Jersey: Wiley.

Harris, S. L., Handleman, J. S., Gordon, R., Kristoff, B., & Fuentes, F. (1991). Changes in cognitive and language functioning of preschool children with autism. *Journal of Autism and Developmental Disorders, 21*, 281-290.

Harry, B. & Anderson, M. G. (1995). The disproportionate placement of African American males in special education programs: A critique of the process. *Journal of Negro Education, 63*, 602-620.

Hoy, J. A., Hatton, C., & Hare, D. (2004). Weak central coherence: A cross-domain phenomenon specific to autism? *Autism, 8*, 267-281.

Hoyson, M., Jamieson, B., & Strain, P. S. (1984). Individualized group instruction of normally developing and autistic-like children: The LEAP curriculum model. *Journal of Division for Early Childhood, 8*, 157-172.

Huck, S. W. (2000). *Reading statistics and research* (3rd ed.). New York: Longman.

Joseph, R. M. (1999). Neuropsychological frameworks for understanding autism. *International Review of Psychiatry, 11*, 309-325.

Kanner, L. (1943). Autistic disturbances of affective contact. *The Nervous Child, 2*, 217-250.

Kanner, L. (1952). Emotional interference with intellectual functioning. *American Journal of Mental Deficiency, 56*, 701-707.

Klinger, L. G., & Dawson, G. (1996). Autistic disorder. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 311-339). New York: Guilford Press.

Konstantareas, M. (1989). After diagnosis, what? Some of the possible problems around diagnostic assessments. *Canadian Journal of Psychiatry, 34*, 549-553.

Kraus, M. W., Gulley, S., Sciegaj, M., & Wells, N. (2003). Access to specialty medical care for children with mental retardation, autism, and other special health care needs. *Mental Retardation, 41*, 329-339.

Leslie, A. M. (1987). Pretense and representation: The origins of "theory of mind". *Psychological Review, 94*, 412-426.

Lindemann-LaBuhn, E., Finstuen, K., Riccio, C. A., & Jarratt, K. P. (2004, April). *Comparative review of measures of autism spectrum disorders*. Paper presented at the annual meeting of the National Association of School Psychologist, Dallas, TX.

Lord, C., & Risi, S. (2000). Diagnosis of autism spectrum disorders in young children. In A. M. Wetherby and B. M. Prizant (Eds.), *Autism spectrum disorders: A transactional developmental perspective* (pp. 11-30). Baltimore, MD: Paul H. Brookes.

Lotter, V. (1978). Childhood autism in Africa. *Journal of Child Psychology and Psychiatry, 19*, 231-244.

Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology, 55*, 3-9.

Loveland, K. A., & Tunali-Kotoski, B. (2005). The school-age child with an autistic spectrum disorder. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 247-287). Hoboken, New Jersey: Wiley.

Lynch, E. W., & Stein, R. C. (1987). Parent participation by ethnicity: A comparison of Hispanic, Black, and Anglo families. *Exceptional Children, 54*, 105-111.

Mackintosh, V. H., Myers, B. J., & Goin-Kochel, R. P. (2006). Sources of information and support used by parents of children with autism spectrum disorders. *Journal on Developmental Disabilities*, *12*, 41-51.

Mandell, D. S., Listerud, J., Levy, S., & Pinto-Martin, J. A. (2002). Race differences in the age at diagnosis among Medicaid-eligible children with autism. *Journal of American Academy of Child and Adolescent Psychiatry, 41*, 1447-1453.

Mandell, D. S., & Novak, M. (2005). The role of culture in families' treatment decisions for children with autism spectrum disorders. *Mental Retardation and Developmental Disabilities Research Review, 11*, 110-115.

McEachin, J. J., Smith, T., & Lovaas, O. I. (1993). Long-term outcome for children with autism who received early intensive behavioral treatment. *American Journal of Mental Retardation, 97*, 359-372.

Meltzoff, A., & Gopnik, A. (1993). The role of imitation in understanding persons and developing a theory of mind. In S. Baron-Cohen, H. Tager-Flusberg, & D. Cohen (Eds.), *Understanding other minds* (pp. 335-366). New York: Oxford University Press.

Mesibov, G. B., Adams, L. W., & Klinger, L. G. (1997). *Autism: Understanding the disorder*. New York: Plenum.

Minshew, N. J. (1997). Pervasive developmental disorders: Autism and similar disorders. In T. E. Feinberg & M. J. Farah (Eds.), *Behavioral neurology and neuropsychology* (1st ed., pp. 817-826). New York: McGraw-Hill.

Oswald, D. P., Coutinho, M. J., Best, A. M., & Singh, N. N. (1999). Ethnic representation in special education: The influence of school-related economic and demographic variables. *The Journal of Special Education, 32*, 194-206.

Ozonoff, S., & Cathcart, K. (1998). Effectiveness of a home program intervention for young children with autism. *Journal of Autism and Developmental Disorders, 28*, 25-32.

Ozonoff, S., Pennington, B. F., & Rogers, S. J. (1991a). Executive function deficits in high-functioning autistic individuals: Relationship to theory of mind. *Journal of Child Psychology and Psychiatry, 32*, 1081-1105.

Ozonoff, S., & Rogers, S. J. (2003). From Kanner to the millennium. In S. Ozonoff, S. Rogers, & R. Hendren (Eds.), *Autism spectrum disorders: A research review for practioners* (pp. 3-33). Washington, DC: American Psychiatric Publishing.

Ozonoff, S., Rogers, S. J., & Pennington, B. F. (1991b). Asperger's syndrome: Evidence of an empirical distinction from high-functioning autism. *Journal of Child Psychology and Psychiatry, 32*, 1107-1122.

Palmer, R. F., Blanchard, S., Jean, C. R., & Mandell, D. S. (2005). School district resources and identification of children with autistic disorder. *American Journal of Public Health, 95*, 125-130.

Pennington, B. F. (1991). *Diagnosing learning disorders: A neuropsychological framework.* New York: Guilford.

Phillips, D. M., Longlett, S. K., Mulrine, C., Kruse, J., & Kewney, R. (1999). School problems and the family physician. *American Family Physician, 59*, 2816-2824.

Pisula, E. (2003). Parents of children with autism – review of current research. *Archives of Psychiatry and Psychotherapy, 5*, 51-63.

Pring, A. (1996). Gender, race, and DSM-IV diagnosis in adolescents. *Dissertation Abstracts International, 57* (12B), 7740 (UMI No. 9715581).

Rogers, S. J. (1996). Brief report: Early intervention in autism. *Journal of Autism and Developmental Disorders, 26*, 243-246.

Rogers, S. J., & Lewis, H. (1989). An effective day treatment model for young children with pervasive developmental disorders. *Journal of American Academy of Child Adolescent Psychiatry, 28*, 207-214.

Rosenblum, K. E., & Travis, T. C. (2000). *The meaning of difference: American constructions of race, sex and gender, social class, and sexual orientation* (2nd ed.). New York: McGraw-Hill.

Ruble, L. A., Heflinger, C. A., Renfrew, J. W., & Saunders, R. C. (2005). Access and service use by children with autism spectrum disorders in medicaid managed care. *Journal of Autism and Developmental Disorders, 35*, 3-13.

Rutter, M. (2005). Genetics influences and autism. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 425-452). Hoboken, New Jersey: Wiley.

Scheuermann, B., & Webber, J. (2002). *Autism: Teaching does make a difference*. Toronto, Ontario, Canada: Wadsworth.

Schigelone, A. S., & Fitzgerald, J. T. (2004). Development and utilization of vignettes in assessing medical students' support of older and younger patients' medical decisions. *Evaluation and Health Professions, 27*, 265-284.

Schopler, E., Andrews, C. E., & Strupp, K. (1979). Do autistic children come from upper-middle-class parents? *Journal of Autism and Developmental Disorders, 9*, 139-152.

Seo, G. H. (1992). Cross-cultural study of autism in South Korea and the United States (Doctoral dissertation, University of Texas at Austin, 1992). *Dissertation Abstracts International, 52* (9), 3246.

Shah, K. (2001). What do medical students know about autism? *Autism, 5*, 127-133.

Sigman, M., & Capps, L. (1997). *Children with autism: A developmental perspective*. Cambridge, MA: Harvard University.

Simpson, R. L., & Zionts, P. (2000). *Autism: Information and resources for professionals and parents* (2nd ed.). Austin, TX: Pro-Ed Inc.

Singer, M. R. (1987). *Intercultural communication: A perceptual approach*. Englewood Cliffs, NJ: Prentice-Hall.

Smith, T., Eikeseth, S., Klevstrand, M., & Lovaas, O. I. (1997). Intensive behavioral treatment for preschoolers with severe mental retardation and pervasive developmental disorder. *American Journal on Mental Retardation, 102*, 238-249.

Spears, R. C. (1999). School psychologists' perception of the usefulness of different types of assessment data in the diagnosis and educational program planning for students with autism. *Dissertation Abstracts International, 61* (04), 1359. (UMI No. 9970625).

Stone, W. L. (1987). Cross-disciplinary perspectives on autism. *Journal of Pediatric Psychology, 12*, 615-630.

Szatmari, P., Archer, L., Fisman, S., Streiner, D., & Wilson, F. (1995). Asperger's syndrome and autism: Differences in behavior, cognition, and adaptive functioning. *Journal of American Academy of Child and Adolescent Psychiatry, 34*, 1662-1671.

Tidmarsh, L., & Volkmar, F. R. (2003). Diagnosis and epidemiology of autism spectrum disorders. *Canada Journal of Psychiatry, 48*, 517-525.

Trillingsgaard, A, Sorensen, E. U., Nemec, G., & Jorgensen, M. (2005). What distinguishes autism spectrum disorders from other developmental disorders before the age of four years? *European Child & Adolescent Psychiatry, 14*, 65-72.

U. S. Department of Education.(2004a). Individuals with Disabilities Education Act of 2004. [Online] Available: http://www.ed.gov/policy/speced/guid/idea/idea2004.html

U. S. Department of Education. (2004b). *Twenty-sixth annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: Author.

U. S. Department of Health and Human Services. (2006). *Child Maltreatment*. Washington, DC: Author. [Online] Available: http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can.

Volkmar, F. R., & Klin, A. (2005). Issues in the classification of autism and related conditions. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 5-41). Hoboken, New Jersey: Wiley.

Weru, J. W. (2005). Cultural influences on the behavioral symptoms of autism in Kenya and the United States of America (Doctoral dissertation, University of Texas at Austin, 2005). *Dissertation Abstracts International, 66* (08), 2893.

Whitman, T. L. (2004). *The development of autism: A self-regulatory perspective*. London, England: Jessica Kingsley Publishers.

Wing, L. (1981). Asperger's syndrome: A clinical account. *Psychological Medicine, 11*, 115-129.

Wing, L. (2005). Problems of categorical classification systems. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders: vol. 1. Diagnosis, development, neurobiology, and behavior* (3rd ed., pp. 583-605). Hoboken, New Jersey: Wiley.

Witt, W. P., Kasper, J. D., & Riley, A. W. (2003). Mental health services use among school-aged children with disabilities: The role of sociodemographics, functional limitations, family burdens, and care coordination. *Health Services Research, 38*, 1441-1466.

World Health Organization (2004). *International statistical classification of diseases – 10th revision* (2nd ed.). Geneva, Switzerland: Author.

Yapko, D. (2003). *Understanding autism spectrum disorders: Frequently asked questions*. London, England: Jessica Kingsley Publishers.

Yeargin-Allsopp, M., Rice, C., Karapurkar, T., Doernberg, N., Boyle, C., & Murphy, C. (2003). Prevalence of autism in a US metropolitan area. *Journal of American Medical Association, 289*, 49-55.

Zillmer, E. A., & Spiers, M. V. (2001). *Principles of neuropsychology*. Maple-Vail, NY: Wadsworth.

APPENDIX A

Diagnostic Criteria for Autistic Disorder

A. A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):

(1) qualitative impairment in social interaction, as manifested by at least two of the following:

- (a) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
- (b) failure to develop peer relationships appropriate to developmental level
- (c) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
- (d) lack of social or emotional reciprocity

(2) qualitative impairments in communication as manifested by at least one of the following:

- (a) delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
- (b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
- (c) stereotyped and repetitive use of language or idiosyncratic language
- (d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

(3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

- (a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
- (b) apparently inflexible adherence to specific, nonfunctional routines or rituals
- (c) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-box movements)
- (d) persistent preoccupation with parts of objects

B. Delays or abnormal functioning in at least on of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.

C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

APPENDIX B

Professional Perceptions of Children's Behavior
Demographic Data

Section I: Personal Data

1. **Gender** _____ Female _____ Male

2. **Ethnicity**. Asian or Pacific Islander
_____ Black or African American
_____ Hispanic/Latino/Mexican-American/Puerto Rican/Cuban
_____ Native American
_____ White/Caucasian/Western European Descent (Not Hispanic)
_____ Biracial or Other: _____

3. **Highest Level of Education**
_____ Enrolled in Bachelor Level Program
_____ Completed Bachelor Degree
_____ Completed BA/BS plus 15-30 graduate credits
_____ Completed Master Degree (MA, MS, M.Ed.)
_____ Completed Specialist Level (Ed.S.)
_____ Completed Doctoral Degree (Ph.D., Ed.D., Psy.D.)

4. **Current Position**
_____ Student
_____ School Psychologist
_____ Professor (please specify area:_____)
_____ Other (please specify: _____)

5. **Number of years in your respective profession including the current year**: _____

6. **Age of the population you primarily work with** (check all that apply):
_____Early Childhood (pre-K)
_____Elementary (K - 5)
_____Middle School (6 - 8)
_____High School (9 - 12)

7. **What is the predominant ethnic group of the population that you work with**? (check one)
_____ Asian or Pacific Islander
_____ Black or African American
_____ Hispanic/Latino/Mexican-American/Puerto Rican/Cuban
_____ Native American
_____ White/Caucasian/Western European Descent (Not Hispanic)
_____ Other: _____

8. **What is the predominant socioeconomic status (SES) of the population that you work with**? (check one)
_____ Free/reduced lunch
_____ Not free/reduced lunch

9. **What is the predominant demographic area that you work**? (check one)
_____ Rural
_____ Urban
_____ Suburban

10. **In what areas of exceptionality do you have specific training and expertise?** (circle all that apply)

Autism	Attention-Deficit Hyperactivity Disorder	Behavior Disorder
Child Abuse/Neglect	Developmental Delay	Early Childhood
Hearing Impairment	Intellectual Giftedness	Language/Speech
Learning Disability	Mental Retardation	Other Health Impairment
Physical Impairment	Traumatic Brain Injury	Visual Impairment

11. **How would you describe your level of *experience* in working with children from diverse cultures**? (check one)

_____I have minimal to no experience working with children from diverse cultures
_____ I have some experience working with children from diverse cultures
_____ I have much experience working with children from diverse cultures
_____ I have extensive experience working with children from diverse cultures

12. **How would you describe your level of *training* in working with children from diverse cultures?** (check one)

_____I have had minimal to no training to work with children from diverse cultures
_____ I have had some training to work with children from diverse cultures
_____ I have had much training to work with children from diverse cultures
_____ I have had extensive training to work with children from diverse cultures

13. **How would you describe your level of *experience* in working with children with special needs (e.g., behavioral or emotional problems, autism, ADHD, learning problems, etc.)?** (check one)

_____I have minimal to no experience working with children with special needs
_____ I have some experience working with children with special needs
_____ I have much experience working with children with special needs
_____ I have extensive experience working with children with special needs

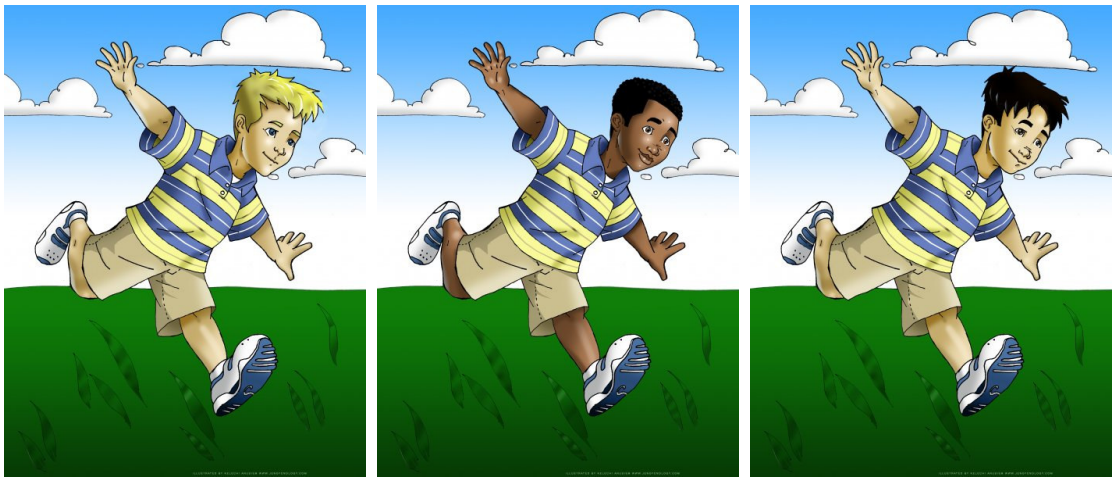
14. **How would you describe your level of *training* in working with special needs (e.g., behavioral or emotional problems, autism, ADHD, learning problems, etc.)?** (check one)

_____I have had minimal to no training to work with children with special needs
_____ I have some training to work with children with special needs
_____ I have much training to work with children with special needs
_____ I have extensive training to work with children with special needs

THANK YOU FOR YOUR ASSISTANCE!!!!

APPENDIX C
Vignette Illustrations

Vignette Illustrations representing the ethnicities (Caucasian, African American, and Hispanic) of the boys found in the vignettes in Appendix F.



Jacob Jamar Jose

APPENDIX D

Vignette A: Cuccaro and colleagues (1996)

Description:

John is a 4-year old African-American (or Caucasian) male who has a variety of behavioral and emotional problems. John was referred by his pediatrician. He has two older brothers who are very active. His older brother is receiving resource instruction. John's family is economically disadvantaged and receives public assistance. *(Higher SES vignette replaces the previous sentence with, "John's family is middle class and both parents are employed in professional positions.".)*

According to his mother, John has very limited language abilities. He has a small vocabulary and communicates poorly—usually when he needs or wants something. He will occasionally repeat back what others say to him. John's mother is most concerned about his play with other children. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. According to John's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. John's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

John was tested by a local school psychologist and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for John. The psychologist noted that John was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that John's social skills were poor.

Vignette B: Fournier and colleagues (2004)

Name: Lawrence (*or Adam*)
Ethnicity: African American (*or European-American*)
Primary Language: English
Eligible for free or reduced cost lunch: yes (*or no*)

Description:

Lawrence is an eight year old African American male who recently moved into the school district. Neither of his parents completed high school; he is eligible for free/reduced lunch. *(Higher SES vignette replaces the previous sentence with, "Both of his parents have college degrees; he is not eligible for free/reduced lunch.".)* He seems to have social problems. He typically doesn't talk to others, and when he does, he stares off while he is talking, usually by looking to the left of the floor. He likes to sit in an unusual position with his legs crossed and the soles of his feet facing upward. He clearly prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems to have normal speech patterns, but it is hard to know for sure, because he doesn't talk socially, and when he does talk, he tends to limit himself to one to two word responses. He typically is off by himself. He does have a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Lawrence.

APPENDIX E

Vignette descriptions that meet DSM-IV-TR Diagnostic Criteria for Autism

Qualitative Impairment in Social Interaction:
1) He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor.

2) Jacob's mother and teacher are most concerned about his play with other children. Jacob prefers to stay to himself, and never joins in conversations, group activities, or general play.

3) According to Jacob's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug.

4) Also, the psychologist noted that Jacob's social skills were poor.

Qualitative Impairment in Communication:
1) According to his mother, Jacob has very limited language abilities. Jacob has a small vocabulary and communicates usually when he needs or wants something.

2) Occasionally, he will repeat back what others say to him.

3) As reported by his teacher, Jacob appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

4) Jacob was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69.

5) The psychologist noted that Jacob was difficult to test as he was uncooperative and had limited language.

Restricted Repetitive and Stereotyped Patterns of Behavior, Interests, and Activities:
1) He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse.

2) In addition, Jacob has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jacob.

Other Behaviors Commonly Associated with Autism:
1) He is extremely active at home, at times, running through the house and screaming for long periods.(over-activity and abnormality in mood or affect)

2) Jacob's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions. (self-injurious behavior)

3) His adaptive skills are quite poor and his mother has to do many things for Jacob. (adaptive skills)

APPENDIX F

Name: Jacob
Ethnic Group: Caucasian
Socio-economic Status: Upper Middle Class
Primary Language: English

Description:
Jacob is a 5-year old Caucasian male who has a variety of behavioral and emotional problems. Jacob recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jacob's family is upper middle class as both of Jacob's parents have a college degree and are both employed in professional positions.

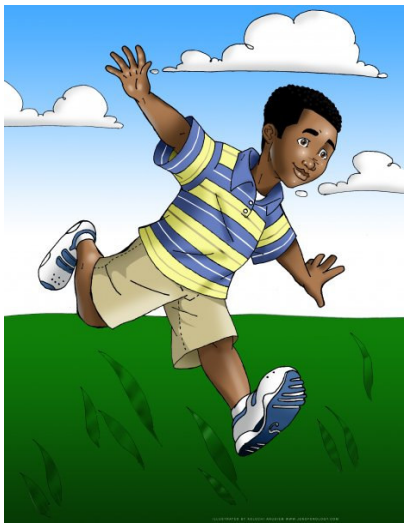
According to his mother, Jacob has very limited language abilities. Jacob has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jacob appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

Jacob's mother and teacher are most concerned about his play with other children. Jacob prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. In addition, Jacob has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jacob.

According to Jacob's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jacob's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

Jacob was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for Jacob. The psychologist noted that Jacob was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that Jacob's social skills were poor.

(please complete the questions on the attached sheet)



Name: Jamar
Ethnic Group: African American
Socio-economic Status: Upper Middle Class
Primary Language: English

Description:
Jamar is a 5-year old African American male who has a variety of behavioral and emotional problems. Jamar recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jamar's family is upper middle class as both of Jamar's parents have a college degree and are both employed in professional positions.

According to his mother, Jamar has very limited language abilities. Jamar has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jamar appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

Jamar's mother and teacher are most concerned about his play with other children. Jamar prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. In addition, Jamar has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jamar.

According to Jamar's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jamar's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

Jamar was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for Jamar. The psychologist noted that Jamar was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that Jamar's social skills were poor.

(please complete the questions on the attached sheet)

Name: Jose
Ethnic Group: Hispanic
Socio-economic Status: Upper Middle Class
Primary Language: English

Description:
Jose is a 5-year old Hispanic male who has a variety of behavioral and emotional problems. Jose recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jose's family is upper middle class as both of Jose's parents have a college degree and are both employed in professional positions.

According to his mother, Jose has very limited language abilities. Jose has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jose appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

Jose's mother and teacher are most concerned about his play with other children. Jose prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. In addition, Jose has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jose.

According to Jose's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jose's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

Jose was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for Jose. The psychologist noted that Jose was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that Jose's social skills were poor.

(please complete the questions on the attached sheet)

Name: Jacob
Ethnic Group: Caucasian
Socio-economic Status: Economically Disadvantaged
Primary Language: English

Description:
Jacob is a 5-year old Caucasian male who has a variety of behavioral and emotional problems. Jacob recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jacob's family is economically disadvantaged as neither of Jacob's parents completed high school and receives public assistance.

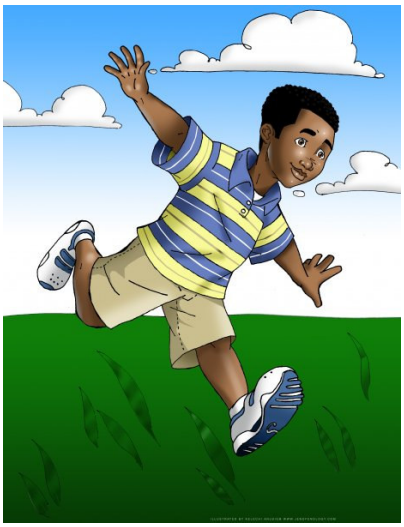
According to his mother, Jacob has very limited language abilities. Jacob has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jacob appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

Jacob's mother and teacher are most concerned about his play with other children. Jacob prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. In addition, Jacob has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jacob.

According to Jacob's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jacob's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

Jacob was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for Jacob. The psychologist noted that Jacob was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that Jacob's social skills were poor.

(please complete the questions on the attached sheet)



Name: Jamar
Ethnic Group: African American
Socio-economic Status: Economically Disadvantaged
Primary Language: English

Description:
Jamar is a 5-year old African American male who has a variety of behavioral and emotional problems. Jamar recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jamar's family is economically disadvantaged as neither of Jamar's parents completed high school and receives public assistance.

According to his mother, Jamar has very limited language abilities. Jamar has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jamar appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

Jamar's mother and teacher are most concerned about his play with other children. Jamar prefers to stay to himself, and never joins in conversations, group activities, or general play. He seems more content to play with one or two toys and often spends much time alone playing with a music toy which he has nearly worn out from overuse. In addition, Jamar has a peculiar habit of twisting things such as extension cords, string he finds, shoelaces, and even plants. If he isn't twisting something, he tends to twist his fingers. The other children typically stay away from Jamar.

According to Jamar's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jamar's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

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(please complete the questions on the attached sheet)

Name: Jose
Ethnic Group: Hispanic
Socio-economic Status: Economically Disadvantaged
Primary Language: English

Description:
Jose is a 5-year old Hispanic male who has a variety of behavioral and emotional problems. Jose recently moved into the school district, and was referred by his teacher. He has two older brothers who are very active. His older brother is receiving resource instruction. Jose's family is economically disadvantaged as neither of Jose's parents completed high school and receives public assistance.

According to his mother, Jose has very limited language abilities. Jose has a small vocabulary and communicates only when he needs or wants something. He typically does not talk to others, and when he does, he stares off while he is talking, usually looking to the left of the floor. Occasionally, he will repeat back what others say to him. As reported by his teacher, Jose appears to have normal speech patterns, but it is difficult for her to know for sure, because he does not talk socially, and when he does speak, he tends to limit himself to one to two word responses.

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According to Jose's mother, he is rarely affectionate although occasionally he will hug her if she initiates the hug. He is extremely active at home, at times, running through the house and screaming for long periods. Jose's mother is afraid to leave him alone for fear he will hurt himself as he has done on several occasions.

Jose was tested by the school psychologist in his former school district and found to have a nonverbal IQ of 69. His adaptive skills are quite poor and his mother has to do many things for Jose. The psychologist noted that Jose was difficult to test as he was uncooperative and had limited language. Also, the psychologist noted that Jose's social skills were poor.

(please complete the questions on the attached sheet)

APPENDIX G

Professional Perceptions of Children's Behavior
Survey Questionnaire

BASED UPON THE LIMITED INFORMATION AVAILABLE FROM THE VIGNETTE PLEASE COMPLETE THE FOLLOWING BY *CIRCLING*:

A. **How serious would you consider this child's problem to be?**
Not at all Mild Somewhat Serious Serious

B. **Compared with other children the same age, how unusual is this child's behavior**?
Not at all A little Somewhat Unusual Unusual

C. **Do you think this child's problems warrant an immediate intervention**? YES or NO
If Yes, how soon? Next few days Next few weeks A month By end of 6 Weeks

D. **For each of the following, please indicate how likely you would be to conclude the child's presenting problem is due to**:

1) ***Expressive Language Disorder***	Not Likely	Maybe	Most Likely	Definitely
2) ***Child Abuse/Neglect***	Not Likely	Maybe	Most Likely	Definitely
3) ***Mild Mental Retardation***	Not Likely	Maybe	Most Likely	Definitely
4) ***Cultural Deprivation***	Not Likely	Maybe	Most Likely	Definitely
5) ***Autistic Disorder***	Not Likely	Maybe	Most Likely	Definitely
6) ***Attention-Deficit Hyperactivity Disorder***	Not Likely	Maybe	Most Likely	Definitely
7) ***Developmental Delay***	Not Likely	Maybe	Most Likely	Definitely
8) ***Emotional Disturbance***	Not Likely	Maybe	Most Likely	Definitely
9) ***Hearing Impairment***	Not Likely	Maybe	Most Likely	Definitely
10) ***Normal Developing Child***	Not Likely	Maybe	Most Likely	Definitely

E. **Please indicate below which of the child's symptoms in the vignette you viewed as most critical to your decisions in Questions A - D above.**

APPENDIX H

SURVEY COVER LETTER EXAMPLE

Professional Perceptions of Children's Behavior

Dear SCHOOL PSYCHOLOGISTS:

I am writing seeking your help with a very important study. As you know, school psychologists are key figures in the identification and intervention process of children with emotional and behavioral problems. Frequently, school psychologists are routinely asked to make critical decisions about complex behaviors in children. These decisions have profound influence on the developmental trajectory of these children. Understanding the process guiding such decisions and the affects of training, location, culture, and other factors on these decisions are important.

As a member of the National Association of School Psychologist, you are one of a small sample of 500 participants selected from the membership of NASP. Responses from a diverse group of school psychologists are important for the success of this doctoral dissertation, and your response is important in helping to ensure that goal is met. All participants will be entered into a random drawing for a twenty dollar gift certificate to Barnes and Noble.

Your participation in this survey is voluntary, and there are no significant risks in responding to these questions. Your answers will be kept confidential. In order to ensure confidentiality, your survey return envelope has been numbered, but your survey questionnaire has not been numbered. Upon receiving your questionnaire and envelope, the two will be separated and your questionnaire will be numbered with a new non-identifying number. The number on your return envelope will be used when randomly selecting participants during a gift certificate drawing. Your name will not be connected with your answers, and only group data will be revealed when study results are reported. If it is your preference not to respond, please return the blank questionnaire in the enclosed stamped envelope.

The enclosed case study and survey should take approximately 10 minutes to complete. If you have any questions regarding this study at any time, or wish to obtain a summary of the results, please contact:

Calissia Tasby or Cynthia A. Riccio, Ph.D.
Department of Educational Psychology
Texas A&M University
College Station, TX 77843-4225
(979) 450-1079 (CT) or 979-862-4906 (CR)

In knowing how important your response is to the accuracy of the results from this study, I hope you will complete and return the enclosed questionnaire. *However, if it is your preference not to respond, please return the blank questionnaire in the enclosed stamped envelope*. Thank you in advance for your participation, and I look forward to registering your return envelope for the drawing!

Sincerely,

Calissia Tasby

This research study has been reviewed by the Institutional Review Board – Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, (979)458-4067.

APPENDIX I
FOLLOW-UP/REMINDER POST CARD

Dear SCHOOL PSYCHOLOGISTS:

Two weeks ago a case study and questionnaire were sent to you via mail. This is a friendly reminder that your survey response is still needed.

If you have already completed and returned your survey, please accept my sincere thanks! I am especially grateful for your assistance because your response will be helpful in increasing the understanding of the processes that guide school psychologist during the identification and intervention of children with complex behaviors.

If you did not receive a questionnaire, or if it was misplaced, please email me at MsCalissia@tamu.edu and another questionnaire will be mailed to you promptly.

Sincerely,

Calissia Tasby
Department of Educational Psychology
Texas A&M University
College Station, TX 77843-4225

APPENDIX J

FINAL NOTICE/REPLACEMENT QUESTIONAIRE

Professional Perceptions of Children's Behavior

Dear **SCHOOL PSYCHOLOGISTS**:

Approximately 8 weeks ago, you were sent a questionnaire asking you to complete questions based upon information obtained from reading a case study. **To the best of our knowledge, your survey has not been returned.**

Responses on the questionnaire are instrumental in providing an understanding of the processes that guide the decisions of school psychologists when they are asked to make critical decisions about complex behaviors in children. **Your response is vital in helping us obtain accurate results that are true representative of the professionals sampled.**

If for some reason you have received the questionnaire by mistake and you are not a school psychologist, please indicate this on the top of the questionnaire and return the survey in the enclosed envelope so your name can be deleted from the mailing list.

As a quick reminder of survey procedures, a questionnaire identification number is printed on your postage paid return envelope. This number is used to check your name off of a mailing list after your survey has been received. This identification number on your return envelope will also be used when randomly selecting participants during a gift certificate drawing. Your actual survey questionnaire will be numbered with a new non-identifying number so that your responses to your survey cannot be traced back to you. Ensuring your confidentiality is very important.

The enclosed case study and survey should take approximately 10 minutes to complete. If you have any questions regarding this study at any time, or wish to obtain a summary of the results, please contact:

Calissia Tasby or Cynthia A. Riccio, Ph.D.
Department of Educational Psychology
Texas A&M University
College Station, TX 77843-4225
(979) 450-1079 (CT) or 979-862-4906 (CR)

In knowing how important your response is to the accuracy of the results from this study, I hope you will complete and return the enclosed questionnaire. However, if it is your preference not to respond, please return the blank questionnaire in the enclosed stamped envelope.

Sincerely,

Calissia Tasby

This research study has been reviewed by the Institutional Review Board – Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, (979) 458-404-067.

APPENDIX K

Frequency Table of Symptoms from Vignette Viewed as Most Critical

Adaptive Skills	White High	White Low	Black High	Black Low	Hispanic High	Hispanic Low
Adaptive Behavior	0	**1**	**1**	0	**1**	0
Adaptive Delays/Deficits	**2**	**1**	**2**	0	**1**	**2**
Disconnect between Behavior and Consequence	0	0	0	0	**1**	0
Does Not Learn from Getting Injured (Prone to Accidents)	0	**1**	0	0	0	0
Does Not Recognize Common Dangers/Unaware of Danger	0	0	**1**	**1**	0	**1**
Fear May Harm Self-Afraid to Leave Alone	0	**3**	**4**	**4**	0	**1**
Hurts Self/Self Harm	0	**2**	**2**	**3**	**2**	**1**
Lack of Ability to Care for Self	0	0	0	**1**	0	0
Lack of Safety Awareness	0	0	**1**	0	**1**	0
Low-Poor Adaptive Behaviors/Skills	**15**	**7**	**6**	**14**	**23**	**12**
Mother Has to Do Many Things	0	**1**	0	0	**1**	0
Never Left Alone	0	**1**	0	0	0	0
Safety Concern	0	**1**	0	0	0	0
TOTAL By Vignette	***17***	***18***	***17***	***23***	***30***	***17***
Adaptive Skills GRAND TOTAL	***122***					

Atypical Behavior	White High	White Low	Black High	Black Low	Hispanic High	Hispanic Low
Active to Very Active	0	**1**	**2**	0	0	**1**
Activity Level at Home	0	**1**	**2**	**2**	0	**1**
Behaviors Seen Across Settings	0	**1**	0	0	0	0
Bursts of Extreme Activity	0	0	**1**	0	0	0
Difficulty with Self Regulation	0	**1**	0	0	0	0
Disorganized	0	0	0	0	**1**	0
Excess Motor	0	0	0	0	**1**	0
Extremely Active at Home	**1**	**2**	**4**	0	0	0
Frustrations = Anger/Tantrum	**1**	0	0	0	0	0
High Activity Level	**7**	**1**	0	**2**	**8**	**2**
Impulsive-Impulse Control	**1**	0	0	0	0	**1**
Motor Activity	0	0	**1**	0	0	0

Obsessive Behaviors	0	0	0	**1**	0	0
Odd Behaviors/Habits	0	0	0	0	**1**	0
Overactivity-Hyperactivity	**1**	**3**	**2**	**1**	**3**	**3**
Over Reactive	0	0	0	0	**1**	0
Running Through House Screaming	**6**	**4**	**4**	**3**	**7**	**7**
Screams for Long Periods	0	**3**	**3**	**1**	**3**	**4**
Screaming	**1**	**3**	**5**	**3**	**4**	0
Screams and Runs for Long Periods	**1**	**1**	0	0	0	0
Self Injurious Behavior	**8**	**1**	**2**	**2**	**9**	**1**
Uncooperative	**2**	**2**	**3**	0	0	0
Unusual Hand Movements	0	0	0	0	0	**1**
Variety of Behavioral and Emotional Problems	0	0	**2**	0	**1**	**1**
TOTAL By Vignette	***29***	***24***	***31***	***15***	***39***	***22***
Atypical Behavior GRAND TOTAL	***160***					

Cognition	**White High**	**White Low**	**Black High**	**Black Low**	**Hispanic High**	**Hispanic Low**
Autistic Cognitive Profile (VIQ<PIQ)	0	0	0	**1**	0	0
Below Average Ability	0	0	0	0	0	**1**
Cognitive Delays	0	0	0	0	**1**	**1**
Low Cognitive Functioning	0	0	0	0	0	**1**
Low Cognitive Skills	**1**	0	0	0	**1**	0
Low IQ Even When Given a Nonverbal Measure	0	0	0	0	0	**1**
Low IQ-Deficient IQ	0	0	**3**	**2**	**1**	0
Low Nonverbal IQ	0	**2**	0	**1**	**1**	0
Nonverbal IQ = 69	**14**	**9**	**11**	**12**	**23**	**11**
Nonverbal IQ Not Valid	0	0	0	**1**	0	0
Testing Results	0	0	**1**	0	0	0
TOTAL By Vignette	***15***	***11***	***15***	***17***	***27***	***15***
Cognition GRAND TOTAL	***100***					

Eye Contact	White High	White Low	Black High	Black Low	Hispanic High	Hispanic Low
Eye Contact Avoidance	0	0	0	0	0	**1**
Lack of Eye Contact/Gaze	**3**	**2**	**10**	**5**	**9**	**1**
Limited Eye Contact	**4**	**2**	**3**	**1**	**1**	0
Looks Down	0	0	0	**1**	0	0
Looks Into Space or Floor	0	**1**	0	0	0	0
Looks To Left of Floor	**1**	0	**2**	0	**3**	0
Poor Gage/Eye Contact	**5**	**3**	**1**	**4**	**2**	**4**
Stares Off	**5**	**3**	**3**	**2**	**8**	**7**
TOTAL by Vignette	***18***	***11***	***19***	***13***	***23***	***13***
Eye Contact GRAND TOTAL	***97***					

Family Factors	*White High*	*White Low*	*Black High*	*Black Low*	*Hispanic High*	*Hispanic Low*
2 Older Brothers- Opportunity to learn social, play, communication skills	0	0	**1**	0	0	0
Acculturate Slowly	0	0	0	0	0	**1**
Active Brothers, 1 in Resource	**1**	**1**	0	0	0	0
Active Older Brothers	0	**1**	0	0	0	0
Active Older Siblings with No Unusual Behavior	0	0	0	**1**	0	0
Avoids Physical Contact with Parent	0	0	0	**1**	0	0
Brothers Possible Disability/Genetics	**1**	0	0	0	0	0
Check Medical History	0	0	0	**1**	0	0
Concern Regarding Behavior at Home	0	0	0	**1**	0	0
Economic Disadvantaged/Low SES	0	**5**	0	0	0	0
Environmental Enrichment and Care	0	0	0	0	**1**	0
Family History	0	**1**	0	**1**	**5**	**1**
Family History of Resource Help	**1**	0	0	0	0	0
Family Home Life	0	0	0	0	0	**1**
History of Elevated Activity Level in Family	**1**	0	0	0	**1**	0
Lack of Affection Towards Parents	0	**1**	0	0	0	**1**
Lack of Parent Education	0	**1**	0	0	0	0
Likely Attachment Disorder/Neglect	0	0	0	**1**	0	0
Limited Compared to Siblings	0	0	0	0	0	**1**

Limited Language in English Speaking Home	0	**1**	0	0	0	0
Low Degree of Affection Towards Mother	0	**1**	0	0	0	0
Mother Concern of Language and Social Skills	0	0	0	**1**	0	0
No evidence of Abuse or Neglect Mentioned	0	0	0	**1**	0	0
Parent Concerned	0	**1**	0	0	0	0
Parent Report of Teacher Concerns	0	0	0	0	0	**2**
Parental Involvement	0	0	0	0	0	**1**
Parents - Little Education/Education Level	0	**1**	0	0	0	**1**
Parents Concern of Safety and Behavior at Home	0	0	0	**1**	0	0
Parents- Educated (Well Educated)	0	0	0	0	**1**	0
Parents Seem to Know English	0	0	0	0	0	**1**
Positive Family History	**1**	0	0	0	0	0
Primary Language = English	**1**	0	0	0	0	0
Rarely Affectionate at Home	0	0	**1**	0	0	0
Rarely Affectionate with Mother	0	0	**2**	0	0	0
Recent Move	**1**	0	0	0	0	0
Recently Moved into School District	0	0	0	0	**1**	0
Resource Instruction - Older Brother	0	**1**	0	0	0	0
School Psychologists Report Earlier	**1**	0	0	0	0	0
SES and Probable Lack of Preschool/Early Intervention Services	0	0	0	0	0	**1**
Social Component in Family	0	0	0	0	0	**1**
Socioeconomic Level	0	0	**2**	**1**	0	0
Teacher Concerned	0	**1**	0	0	0	0
Upper Mid SES Status	**1**	0	0	0	0	0
Well Educated Parents	**1**	0	0	0	0	0
TOTAL By Vignette	***10***	***16***	***6***	***10***	***9***	***12***
Family Factors GRAND TOTAL	***63***					

Language/Communication	***White High***	***White Low***	***Black High***	***Black Low***	***Hispanic High***	***Hispanic Low***
Communicates Only When He Wants Something	**6**	0	**4**	**2**	**5**	**1**
Communication Difficulties	0	0	**1**	0	0	0
Developmentally Delayed Language	0	0	0	**1**	0	0
Echolalia	**7**	**6**	**10**	**8**	**8**	**8**

Expressing Language Issues Not Due to ESL	0	0	0	0	**1**	0
Expressive Language	**2**	**1**	**1**	**2**	**4**	**3**
Idiosyncratic Use of Language	0	0	0	0	0	**1**
Lack of Appropriate Communication	0	0	0	**1**	**1**	0
Lack of Conversational Use of Language or Other Means to Communicate	0	0	0	0	0	**1**
Lack of Normal Language	0	0	0	0	**2**	0
Lack of Pragmatic Language Skills	**3**	0	0	1	0	0
Lack of Social Conversation/Language	**1**	**1**	**2**	**2**	**1**	**3**
Language Deficits	**1**	0	**1**	0	0	0
Language Development	0	**1**	0	0	0	0
Language Impairment/Delay	0	0	**2**	0	0	**4**
Language Processing	0	**1**	0	0	0	0
Limited Fluent Speech	0	0	**1**	0	0	0
Limited Functional Communication	**2**	0	0	0	0	0
Limited Language/Communication/Speech	**24**	**13**	**22**	**22**	**28**	**27**
Limited Oral Communication	0	0	**2**	0	0	0
Limited Responses	0	0	**1**	0	0	0
Limited Sound Skills	0	**1**	0	0	0	0
Limited/Low Expressive Abilities	**2**	**1**	0	**1**	**1**	0
Low Verbal	0	0	**1**	0	0	0
Mostly Nonverbal	0	**1**	0	0	0	**1**
Normal Language as Reported by Teacher	0	0	**1**	0	0	0
Normal Speech Patterns	**1**	**1**	**1**	**1**	**1**	**3**
Odd Interactive Language	0	0	**1**	0	0	0
One-Two Word Responses/Phrases	**3**	**1**	**5**	**4**	**6**	**4**
Poor Communication	0	0	**1**	0	**1**	**1**
Poor Language Skills	0	0	0	0	0	**1**
Poor Motivation to Use Language to Communicate	**1**	0	0	0	0	0
Poor Oral Communication	0	0	**1**	0	0	0
Poor Speech	0	0	0	**1**	0	0
Possible Speech Delays	0	**1**	**1**	0	**1**	0
Repeated Words	**1**	**1**	**2**	**2**	**6**	**5**
Repeats What Others Say to Him	**4**	**2**	**7**	**1**	**6**	**3**
Repetition of Speech	0	0	0	0	0	**1**

Short Responses	0	0	0	0	**1**	0
Small Vocabulary	**2**	**1**	**9**	**3**	**6**	**5**
Spontaneous Speech	**1**	0	0	0	0	0
Uses Functional Language	0	**1**	0	0	0	0
TOTAL By Vignette	***61***	***34***	***77***	***52***	***79***	***72***
Language/Communication GRAND TOTAL	***375***					

Other Factors	White High	White Low	Black High	Black Low	Hispanic High	Hispanic Low
Age	0	**1**	**1**	**1**	**2**	**1**
Additional Information Needed Related to Early Development	0	**1**	0	0	0	0
Anxiety	0	0	**1**	0	0	0
Attention-Deficit Hyperactivity Disorder	**1**	0	0	0	0	0
Atypicality	**2**	0	0	0	**2**	0
Autistic Disorder	**1**	0	0	0	**2**	0
Autistic Features/Signs of Autism/Consistent with Autism	0	**1**	0	**1**	**2**	**1**
Delay in Developmental Milestones	0	0	**1**	0	0	0
Difficult to Test-Uncooperative	**2**	0	**2**	0	0	**1**
Emotional Disturbance	**1**	0	0	0	0	0
Explore Language Based Disorder and Emotional Factors	0	0	0	**1**	0	0
Expressive Language Disorder	0	0	**2**	0	**1**	**1**
Flat Affect	0	0	**1**	0	0	0
Good Looking Kid	0	**1**	0	0	0	0
Hearing Issues Due to Language, Running, Screaming	0	0	0	0	**2**	0
History of Learning Problems	0	0	**1**	0	0	0
Low IQ Due to Difficult to Test	0	**1**	0	0	0	0
Mild Mental Disability	**1**	0	**1**	0	0	0
More Developmental and Other Info Needed to Diagnose Autism/ADHD	**1**	0	0	0	0	0
More Info Needed on English Language Learner Status	0	0	0	0	0	**1**
More Info Needed To Make Differential Diagnosis	0	**1**	0	**1**	**1**	0
Much Information to Be Determined	0	0	0	**1**	0	0
Need Additional Info to Make Decision	**1**	**1**	0	**1**	**2**	0
No Strengths/Relative Strengths Mentioned	0	0	**1**	0	**1**	0

Not Enough Information to Say	1	0	**1**	0	0	0
OCD (Obsessive Compulsive Disorder) Characteristics	0	0	**1**	0	0	0
ODD (Oppositional Defiant Disorder)	**1**	0	0	0	**4**	**1**
PDD (Pervasive Developmental Disorder)- On Spectrum	0	0	**1**	**1**	0	0
Poor Nonverbal Skills	0	**1**	0	0	0	0
Possible Neurological Symptoms (Processing Problems)	0	0	0	0	0	**1**
Possible Retardation	0	0	0	0	**1**	0
Psychometric Limitation of Psychological Tests Specific to Kid's Age	**1**	0	0	0	0	0
Rule Out Autism	0	0	0	**1**	0	0
Sensory Integration Disorder	0	0	0	0	0	**1**
Suggested Emotional Underlay Due to Odd Behavior	0	0	**1**	0	**1**	0
Symptoms Viewed Together Not in Isolation	**1**	0	**2**	0	0	0
Tested Prior to Age 5	0	**1**	0	0	0	0
Will Not Conclude Anything Based Only on Info Presented	0	**1**	**1**	0	0	0
TOTAL By Vignette	***14***	***10***	***18***	***8***	***21***	***8***
Other Factors GRAND TOTAL	***79***					

Restricted Interest/Sensory Processing	***White High***	***White Low***	***Black High***	***Black Low***	***Hispanic High***	***Hispanic Low***
Extreme Focus on Small Items	0	**1**	0	0	0	**2**
Chronic Twisting	0	0	**1**	0	0	0
Compulsion to Twist Items	0	0	0	0	0	**1**
Fascination with Music Toy	0	0	0	0	0	**1**
Fidgeting with Fingers	0	**1**	0	0	0	0
Fixation on Toys	0	0	0	0	0	**1**
Fixed Pattern of Interest	**1**	0	0	0	0	0
Focus on One Toy-Obsession	0	0	0	**1**	0	**1**
Focus on Parts of Objects/Toys	0	**1**	0	0	0	0
Functional Toys - Not Pretend Play	**1**	0	0	0	0	0
Intense Interests	0	**1**	**1**	0	**1**	**3**
Limited Variety of Toys	0	0	**1**	0	0	0
Little Imaginative Play	0	**1**	0	0	0	**1**
Music-Repeats	0	0	**1**	0	0	0
Narrow Areas of Interest	0	0	0	**1**	0	**1**

Overuse Toy-Atypical Interest	0	0	**2**	0	**1**	0
Peculiar Behaviors/Habits	0	**1**	**2**	0	0	**1**
Peculiar Habit of Twisting Strings and Things	0	**3**	**1**	**1**	0	0
Perseverative Behaviors	**5**	**1**	**1**	**3**	**4**	**1**
Play Patterns	0	0	0	0	**1**	0
Play with Certain/Specific Toys	0	0	**1**	0	0	0
Plays with One Particular Toy to Extent Not Typical	0	0	**1**	0	0	0
Poor Social Integration/Interest	0	0	0	0	**2**	0
Preoccupation with Objects/Toys	**1**	**1**	**1**	**1**	0	0
Questionable Play with One Toy	0	0	0	0	**1**	0
Repetitive Behaviors/Actions	**3**	**4**	**7**	**7**	**6**	**3**
Repetitive Fine Motor Behavior	0	0	0	**1**	0	0
Repetitive Interests	0	0	**1**	0	0	0
Repetitive Movement	**2**	0	0	0	0	**1**
Repetitive Play with 1 toy-Repetitious Play	**5**	**3**	**4**	0	**7**	**7**
Repetitive Twisting	0	0	0	0	0	**1**
Restricted Interest	**2**	0	**3**	**1**	**2**	**3**
Restricts Self to One or Two Toys	**1**	0	**1**	**1**	**2**	**1**
Ritualistic Behavior	**4**	0	0	**1**	0	**1**
Rocking	**1**	0	0	0	0	0
Self Stimulating Behaviors	0	0	**1**	0	0	0
Sensory Issues	0	0	**1**	**2**	0	0
Sensory Need = Twisting	0	0	**1**	**1**	0	0
Special Interest in Musical Toy	**3**	**1**	**1**	0	**5**	0
Stemming	0	0	**1**	**1**	0	0
Stereotyped/Motor Movements	0	0	**1**	0	0	0
Stereotypical Behavior	**2**	**1**	**2**	**1**	**2**	**1**
Stimulated By Music	0	0	0	0	**1**	0
Twist Fingers	**1**	**1**	**1**	0	0	**1**
Twist Things (Objects/Cords)	**17**	**10**	**19**	**14**	**23**	**18**
Twisting Behaviors	0	**1**	0	**2**	**1**	0
Twisting things ….. Even Plants	0	0	**1**	0	0	0
Unusual Play	**1**	0	**1**	0	0	0
Usual Way of Playing with Toys	0	0	0	0	**1**	0
Worn Out Toys from Overuse	**1**	**1**	**1**	**1**	0	0

TOTAL By Vignette	***51***	***33***	***60***	***40***	***60***	***50***
Restricted Interest/Sensory Processing GRAND TOTAL	***294***					

Social-Emotional Connectedness	***White High***	***White Low***	***Black High***	***Black Low***	***Hispanic High***	***Hispanic Low***
Does Not Initiate Affection	0	0	**2**	**1**	0	0
Does Not Initiate Affection with Familiar Adults	0	**1**	0	0	0	0
Emotionally Restricted	0	0	0	0	0	**1**
Hugs Back Only in Imitation	0	0	**1**	0	0	0
Impaired Interpersonal Relationships	**1**	0	0	0	0	0
Interpersonal Skill Deficits	**1**	0	0	0	0	0
Lack of Affection/Affect	0	**1**	0	**2**	**4**	**2**
Lack of Emotional Connectedness	0	**2**	**1**	0	0	0
Lack of Emotional Reciprocity	0	0	**1**	**1**	0	**1**
Lack of Relational Abilities	0	0	0	0	**2**	0
Lack of Sharing Affection	0	0	**1**	0	0	0
Lack of Social Reciprocity	**3**	**2**	**1**	0	0	0
Limited Affection	**2**	**1**	0	0	0	0
Low Spontaneous Displays of Affection	0	0	**1**	0	0	0
No Ability to Relate	0	0	0	**1**	0	0
Not Affectionate	0	**1**	**1**	**3**	0	0
Not Connecting with Others	0	0	0	0	0	**2**
Not Seeking Out Social Interaction with Others	0	0	0	**1**	0	0
Prefers Things to People	0	0	0	**1**	0	**1**
Rarely Affectionate	0	**5**	**15**	**7**	0	**15**
Spontaneous Affection	**1**	0	0	0	0	0
Unaware of Physical Environment	0	0	0	0	0	**1**
TOTAL By Vignette	***8***	***13***	***24***	***17***	***6***	***23***
Social-Emotional Connectedness GRAND TOTAL	***91***					

Social Participation/Interaction	*White High*	*White Low*	*Black High*	*Black Low*	*Hispanic High*	*Hispanic Low*
Aloof Socially	0	0	0	0	**1**	0
Atypical Play Behavior	0	0	0	0	0	**3**
Concerned About Play with Other Children	0	0	**1**	0	0	0
Delayed Social Skills	0	0	0	0	0	**2**
Does Not Initiate Social Contact	**2**	0	0	0	**2**	0
Does Not Join in Group Activities/No Group Play	0	**1**	**3**	0	0	**1**
Does Not Socially Engage with Others	0	0	**1**	0	0	0
Does Not Talk Socially	0	0	**5**	**1**	0	**1**
Does Not Talk to Others	**9**	**3**	**6**	**4**	**16**	**8**
Doesn't Seek Out Others	0	0	0	0	**1**	0
General Play Skills	**1**	0	**1**	0	0	0
Interaction with Toys	0	0	**1**	0	0	0
Isolates Self from Peers/Others	0	**3**	0	0	0	0
Isolates Self in Play Setting	0	**1**	0	0	0	0
Lack of Interactive Play with Peers	0	**1**	**2**	0	0	**1**
Lack of Interest in Social Interaction/Affection	**2**	0	0	**1**	0	0
Lack of Parallel Play	0	0	**1**	0	0	0
Lack of Social Interaction/Reciprocity	0	**1**	**4**	**1**	0	0
Lack of Social Play	**1**	**2**	0	**2**	**4**	**2**
Lack of Social Skills	0	**1**	0	0	0	0
Limited Peer Interaction	**1**	0	0	0	**1**	0
Limited Play Schemes (uses 1 or 2 toys)	0	**1**	**1**	0	0	0
Limited Range in Play	**3**	0	0	0	**1**	**1**
Limited/Low/Poor Social Skills	**7**	**4**	**9**	**11**	**20**	**2**
Limited/Poor Social Interaction	**1**	0	0	0	0	**1**
Little Interest in Others	0	**2**	0	**1**	0	0
Loner/Isolated	0	0	**2**	0	0	0
Neglected By Peers/Not Accepted Socially	0	0	0	**1**	**1**	0
Never Joins Conversation	0	0	**3**	**1**	0	**1**
Other Children Avoid Him	**1**	**2**	**3**	0	**2**	0
Play Patterns	0	**1**	0	0	0	**2**
Playing w/Non Play Objects	0	0	0	0	**1**	0
Plays Alone With Music Toy	**1**	0	**2**	**3**	0	0

Plays By Self with Toy	0	0	**1**	0	0	0
Plays with 1 or 2 Toys	0	**1**	**2**	0	0	0
Plays with Other Children	0	0	0	0	**2**	0
Poor Play Skills	0	**1**	0	0	0	0
Poor Social Communication	0	0	**2**	**1**	0	0
Poor Social Integration/Interest	0	0	0	0	**1**	0
Poor Social Relatedness	0	0	0	**1**	0	0
Prefers to Stay to Himself/Be Alone	**5**	**5**	**3**	**5**	**10**	**4**
Reduced Social Interaction	**8**	**3**	**4**	**5**	**2**	**4**
Risk for Social Communication Problems	0	**1**	0	0	0	0
Social Behavior	0	0	0	0	**2**	0
Social Concerns	0	0	0	**1**	0	0
Social Deficits/Social Skill Deficits/Socialization Deficits	**2**	0	**3**	**1**	**1**	**2**
Social Delays	0	0	**2**	0	0	1
Social Difficulties	0	**1**	0	0	**1**	0
Social Isolation	**3**	**3**	**7**	**3**	**7**	**9**
Social Skills	0	0	**3**	**2**	**1**	**9**
Social Skills Pattern	0	0	**1**	0	0	**1**
Solitary Play/Isolated Play/Plays Alone	**3**	**3**	**6**	**11**	**9**	**5**
Spontaneous Social Skills	0	0	0	**1**	0	0
Teacher Description of Interactions at School	0	**1**	0	0	0	0
Withdrawal	0	**1**	0	0	0	0
TOTAL By Vignette	***50***	***43***	***79***	***57***	***86***	***60***
Social Participation/Interaction GRAND TOTAL	***375***					

APPENDIX L
LETTER TO WINNER OF GIFT CARD DRAWING

Professional Perceptions of Children's Behavior Study

Dear **Dr. Richard Tuck**,

Thank you for completing and returning the questionnaire from my Professional Perceptions of Children's Behavior study. Your responses on the questionnaire in addition to the responses received by your colleagues nationwide were instrumental in providing an understanding of the processes that guide the decisions of school psychologists when they are asked to make critical decisions about complex behaviors in children.

The identification number on your return envelope was randomly selected during a drawing for a gift certificate. As a reminder, to ensure the confidentiality of your responses, your actual returned survey questionnaire was numbered with a new non-identifying number so that your responses could not be traced back to you.

Please accept this 20.00 gift certificate to Barnes and Noble Bookstore as a sign of my appreciation for your participation. Happy Spending!

Sincerely,

Calissia Tasby
Texas A&M University Graduate Student

VITA

CALISSIA THOMAS TASBY
Departmental of Educational Psychology
Texas A&M University
College Station, TX 77843-4225
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EDUCATION

Ph.D.	Texas A&M University, College Station, Texas School Psychology (APA Accredited Program) Graduated: December 2008
B.A.	Spelman College, Atlanta, Georgia Bachelor of Arts in Psychology Graduated: May 2002 (Magna Cum Laude)

CLINICAL AND WORK EXPERIENCE

Dallas Independent School District, Pre-doctoral Internship, 8/2007 – 7/2008

Autism Practicum, Bryan ISD, 8/2006 – 5/2007

Group Therapy Practicum, Bryan ISD, 8/2006 – 12/2006 and 1/2004 – 04/2004

School-Based Field Practicum, College Station ISD, 8/2004 – 5/2005

Integrated Assessment Practicum, Bryan ISD, 1/2004 – 5/2004

Child/Family Therapy Practicum, Counseling and Assessment Clinic, 9/2003 – 12/2003

PRESENTATIONS

Fournier, C., Lemon, D., Dixon, S., Thomas-Tasby, C., & Ramos, N. (2005, August). *Teacher referrals: Impact of school climate, SES, and ethnicity.* Poster session presented at the annual meeting of the American Psychological Association, Washington, DC.

Fournier, C., Rollins, D., Thomas-Tasby, C., & Dixon, S. (2004, April). *Teacher perceptions of children needing referral: Ethnicity, and SES influences.* Poster session presented at the annual meeting of the National Association of School Psychologist, Dallas, TX.